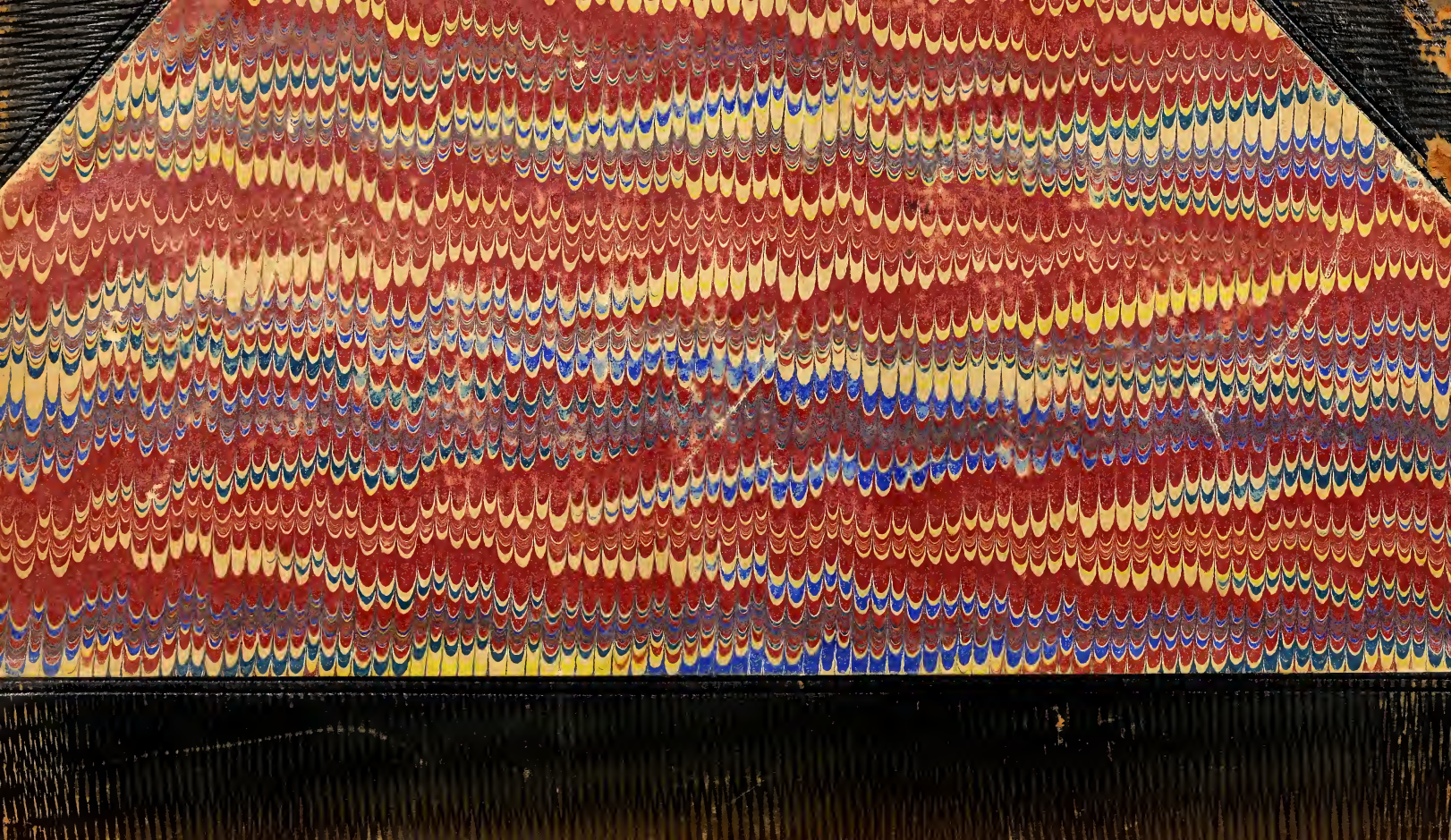

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DEPARTMENT OF AGRICULTURE.

SPECIAL REPORT—No. 64.

REPORT

ON

CONDITION OF CROPS,

"AMERICAN COMPETITION,"

AND

FREIGHT RATES OF TRANSPORTATION COMPANIES.

AUGUST, 1883.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1883.

AUGUST REPORT.

STATISTICAL DIVISION,
DEPARTMENT OF AGRICULTURE,
August 10, 1883.

SIR: I have the honor to present for publication a report on the condition of the crops in August, including cotton, corn, spring wheat, rye, barley, buckwheat, potatoes, tobacco, hay, pasture, sorghum, sugar cane, apples, peaches, and grapes.

A brief report is made of essential facts bearing on the problem of American competition with European agriculture, with extracts from reports of the British commission on the same subject, with views of German, French, and Austrian publicists.

Current changes in transportation freight rates are presented.

Respectfully,

J. R. DODGE,
Statistician.

Hon. GEO. B. LORING,
Commissioner.

CROP REPORT FOR AUGUST.

COTTON.

The August cotton returns to the Department of Agriculture are less favorable than those of July. Condition is lower in every State except two on the northern border of the belt—Virginia and Tennessee. The plant is suffering from the meteorological vagaries of this peculiar season. It was too cold in May, too wet in June, and too dry in July. In Georgia the injury is the greatest, condition falling from 93 to 78; in South Carolina the decline has been from 91 to 80. The prolific cotton belt of Middle Alabama has suffered severely from the drought, while the southern counties and the valley of the Tennessee have had seasonable weather. The upland counties of Central and Northeastern Mississippi report injury from drought very generally. There is need of rain in Central and Southern Texas, but drought has been less general and injurious than in Georgia.

There has been ample rain in a large portion of the Louisiana cotton district, and in nearly all the cotton counties in Florida, in Tennessee generally, and in a majority of the North Carolina counties.

Where drought has been severest the fields stimulated by commercial fertilizers are fruiting the top crop prematurely, and the plants are drying up, as is usually the case under these circumstances.

The general average of condition has fallen to 84 from 90 in July. The record stands, by States: Virginia, 87; North Carolina, 87; South Carolina, 80; Georgia, 78; Florida, 93; Alabama, 83; Mississippi, 85; Louisiana, 85; Texas, 89; Arkansas, 83; Tennessee, 90.

The reports of the presence of the caterpillar are numerous in the Gulf coast States; Central Alabama is infected more seriously than Texas, and Georgia and Louisiana more than Mississippi. They are not reported in Virginia, the Carolinas, or Tennessee, or Arkansas. The first brood are webbed up, in some places the second, and fears are expressed of serious injury from the third brood. Tons of arsenic in various forms are applied to avert such a calamity. The boll-worm is only reported at a few points in Arkansas and Texas.

While the relative condition of cotton, compared with returns of former years, is unpromising, the volume of the crop depends largely upon the more critical period, from August to October.

CORN.

There has been improvement in appearance of corn-fields during the month of July in New England, the Middle States, the Ohio Valley, and west of the Mississippi. In Illinois, Missouri, and Kansas it is slight, measured by a single point. There has been retrograde in the South, in consequence of drought, and some decline in Michigan from too much moisture.

Taking the whole area together, condition has advanced from 88 to 89 per cent. of a perfect crop. The condition of the census crop (1879) in August was 99, and the yield was 28 bushels per acre. The present returns indicate a yield of not much over 25 bushels per acre, or seventeen hundred million bushels, which is as much as was produced in 1879. Condition is six points higher than last year in August, and lower than in any August from 1870 to 1880, inclusive.

Nights have been too cool for rapid development, and the crop is late. Fears are expressed that frost may yet cause disaster. In August, 1874, condition was one degree higher than the present average, the crop late from a wet spring and local summer droughts, and the yield less than 21 bushels per acre.

The averages of the States of principal production are: Illinois, 86; Indiana, 95; Ohio, 89; Michigan, 68; Kentucky, 97; Missouri, 83; Kansas, 97; Iowa, 85; Nebraska, 84; Wisconsin, 85. On the Atlantic coast: New York, 90; Pennsylvania, 99; New Jersey, 101. In the South: Virginia, 93; North Carolina, 83; South Carolina, 70; Georgia,

74; Alabama, 80; Mississippi, 87; Louisiana, 100; Texas, 93; Arkansas, 87; Tennessee, 89.

While a calculation of the State averages representing condition affords the best indication of the prospects of crop, the local lights and shadows are furnished by the brief extracts from correspondents here quoted:

MAINE.—*Oxford:* Best prospects for years. *Knox:* Promising. *Waldo:* We look for a heavy yield.

NEW HAMPSHIRE.—*Rockingham:* Favorable season; fine prospect. *Coos:* Everything that grows looks so fine that it is difficult to make estimate. *Carroll:* Never looked better. *Belknap:* Stands well and is very forward. *Hillsboro':* Needs rain. *Merrimack:* Very large growth, perhaps too large. *Sullivan:* A bountiful harvest is indicated.

VERMONT.—*Lamoille:* Fine prospect; growing rapidly. *Franklin:* Injured by long spell of wet weather. *Windsor:* Has made very heavy growth.

CONNECTICUT.—*New London:* Remarkably fine. *New Haven:* Needs rain. *Hartford:* In great need of rain. *Fairfield:* Forward and doing well. *Tolland:* A somewhat protracted drought has done some injury.

NEW YORK—*Wyoming:* Will be late, and may not ripen fully before frost. *Albany:* Rather too much rain, but is looking well. *Otsego:* A warm August will give full crop. *Schoharie:* Later than usual, but is good size. *Tioga:* So much rain that proper cultivation has been almost impossible. *Steuben:* The weather continues wet. *Washington:* Has regained what was lost in early summer. *Seneca:* Too much rain for corn. *Queens:* Fine growth. *Genesee:* Very backward; still have too much rain. *Orange:* Most encouraging prospect. *Cayuga:* Is gaining rapidly. *Allegany:* Small, owing to late planting, but is promising. *Delaware:* Growing rapidly. *Livingston:* Great improvement during July; may make average crop yet. *Wayne:* Too much rain. *Ulster:* Good growth, but weedy. *Onondaga:* Was kept back by too much rain, but now is growing rapidly.

NEW JERSEY.—*Morris:* Plenty of rain has put corn above an average. *Salem:* Remarkably promising. *Middlesex:* First-class appearance. *Atlantic:* Needs rain. *Burlington:* A drought prevails in a portion of the county, which, if it continues a few days, will do serious harm. *Gloucester:* Wants rain. *Warren:* Some injury by white worm.

PENNSYLVANIA.—*Susquehanna:* Badly injured by wet weather. *York:* Is thought to be finest prospect ever known in the county. *Columbia:* Poor stand; growth very uneven. *Monroe:* Injured by wet weather. *Bradford:* Too much rain for corn. *Cameron:* Great improvement in last thirty days. *Bedford:* Growing remarkably well. *Sullivan:* Fine showers and wonderful growth during July. *Cambria:* Late in this mountain county; had slight frost on 30th and 31st ultimo. *Franklin:* Never had finer prospects for a heavy crop; season all that could be asked. *Butler:* Late, but looks splendidly; a hot August and late frost will make large crop. *Crawford:* Backward and badly drowned out by the wettest season ever known. *Allegheny:* Doing well. *Beaver:* Backward; very few tassels to be seen yet. *Elk:* Late; a poor prospect. *Wyoming:* So much rain in July that could not be worked; is full of weeds and looks yellow. *Lehigh:* Promising. *Lycoming:* Is improving rapidly. *McKean:* Badly drowned on low lands. *Warren:* Have never known so wet a season. *Lawrence:* The nights have been too cold. *Juniata:* Little or no cultivation, but is promising. *Erie:* Too wet for corn; it is a partial failure.

MARYLAND.—*Caroline:* Will be the largest crop the county has ever grown. *Harford:* The heaviest crop for years is indicated. *Somerset:* Vigorous and promising. *Worcester:* Was backward, but frequent rains have brought it out and it is promising. *Carroll:* Growing rapidly. *Washington:* Looks remarkably well.

VIRGINIA.—*Botetourt:* Suffering greatly for want of rain. *Buchanan:* Fine; in excellent condition. *Floyd:* Being injured by drought. *Greene:* Very promising.

Louisa: A drought now prevailing is doing injury. *Patrick:* Drought is damaging the crop. *Richmond:* Has improved rapidly since rains set in. *Princess Anne:* There has been too much rain. *Hanover:* Very much improved by recent rains; may make average crop. *Halifax:* No rain for five weeks; poor prospect. *King George:* If not cut off by drought will have large crop. *Prince William:* Backward; planted late. *Rockingham:* If we get good rain in next ten days will make good crop. *Fluvanna:* Rain is greatly needed. *Carroll:* Cannot make more than half crop; drought the cause. *Charlotte:* Drought is having disastrous effect; *Greenville:* All crops are suffering from drought. *Warwick:* Drought is affecting it. *Mecklenburgh:* Suffering from drought, on high land especially. *Wythe:* A severe drought has ruined our prospects. *Caroline:* Exceptionally fine. *Campbell:* Must have rain in a few days or be seriously damaged. *Essex:* Early corn damaged by cool nights. *Middlesex:* Thirty days late, but looks well. *Nansemond:* Cut short 40 per cent. by wet weather, cut-worm, and drought. *Appomattox:* Needs rain very much. *Prince Edward:* Does not average so well this month as last, owing to drought. *Washington:* Seasonable rains; fine promise. *Pulaski:* No rain since 1st July; drought is fearful; cannot make over half crops. *Prince George:* Backward, but healthy. *Lee:* It is too dry for corn. *James City:* Early planted good; too much rain for late planted. *Craig:* Cut short by drought. *Chesterfield:* Late, bad stand, and generally indifferent. *Bedford:* Needs rain. *King and Queen:* The crop is all that could be asked.

NORTH CAROLINA.—*Richmond:* The grass has been cleaned out, and the prospect is promising. *Sampson:* Had a wet June and dry July, which always give a poor corn crop. *Ashe:* Has suffered from drought, but will recover if season continues favorable. *Cabarrus:* Grass did serious and permanent injury. *Halifax:* Injured first by wet and then by dry, hot weather. *Iredell:* Wet April prevented proper preparation; dry May gave poor stand; wet June caused much grass, and a dry July is now added to its disasters. *Wake:* If present drought continues many days longer, will injure corn. *Forsyth:* Small, but vigorous; rather dry just now. *Lenoir:* Wet weather has lowered condition since last report. *Yadkin:* Suffering badly for want of rain. *Randolph:* A very severe drought now prevailing. *Davidson:* Most alarming drought now prevails. *Montgomery:* Very hot, dry weather is doing serious damage. *McDowell:* Is failing rapidly; needs rain. *Union:* Some sections of the county much in need of rain. *Yancey:* Yield greatly reduced by drought. *Currituck:* Injured by too much rain in first part of month. *Cleveland:* Three weeks' drought is doing serious damage. *Jones:* Condition reduced by drought. *Mecklenburg:* Prospect is very good; have had rains. *Pamlico:* Have had favorable season; corn has improved. *Rowan:* Wet spring and dry July have reduced condition. *Alexander:* Has been suffering from drought. *Buncombe:* Bad stand; very uneven; needs rain. *Guilford:* Drought is injuring corn. *Swain:* There have been too many cold nights. *Stokes:* If rain does not come soon the corn crop will be a failure. *Moore:* Early corn injured by drought. *Caldwell:* Suffering from protracted drought. *Anson:* Local droughts have done much injury. *Camden:* Backward; injured by extremes of weather. *Gaston:* July was highly favorable to cultivation and growth of corn. *Orange:* Suffered for want of rain. *Pasquotank:* Dry for last 30 days; corn badly damaged. *Transylvania:* Our corn is late and badly cut by drought. *Craven:* Injured by chinch-bug and wet weather. *Dare:* Wants rain badly. *Jackson:* Cut off by drought. *Robeson:* Barely a half crop; drought the cause. *Macon:* A few days' more drought will reduce to half crop, but rain will make good yield. *Beaufort:* Drought is reducing the condition rapidly.

SOUTH CAROLINA.—*Beaufort:* Suffering from intensely hot, dry weather. *Sumter:* Cut off by drought. *Chester:* A four weeks' drought has cut off crop. *Fairfield:* Injured by dry July. *Barnwell:* Injured by drought; too late for it to recover. *Hampton:* Hot days and cool nights and dry weather have almost ruined it. *Laurens:* On bottom lands the crop is good, on uplands not much over half crop can be made; drought the cause. *Marion:* Very severely injured, first by grass and afterwards by

drought. *Newberry:* Late, but prospect good. *Williamsburg:* Badly injured by drought. *Clarendon:* Cut off by drought. *Darlington:* A most disastrous drought prevails. *Horry:* Yield will be very materially cut off by drought. *Lexington:* Have had refreshing showers; is improving. *Greenville:* Long drought has cut off corn one half. *Colleton:* Early planted cut off one half by drought; late planted is good. *Union:* The crop on upland is a total failure from drought; bottom-land, crop is good. *Abbeville:* Upland corn suffered from dry weather. *Georgetown:* Is not well filled; too dry.

GEORGIA.—*Union:* Has suffered severely from drought. *Richmond:* July has been hot and dry and caused corn to suffer. *Oglethorpe:* Drought has shortened crop to some extent. *Murray:* The outlook is good, though rain is needed. *Meriwether:* Very much injured by drought. *Haralson:* No rain from the 13th June to 27th July; prospects gloomy. *Elbert:* Drought has almost ruined crop. *Echols:* If drought continues ten days will only make half crop. *Coffee:* A five weeks' drought did much damage. *Cobb:* Drought has greatly lessened a most promising prospect at last report. *Chattooga:* Drought has cut off crop to some extent. *Chattahoochee:* Local droughts have done some injury. *Catoosa:* No rain since early part of June accounts for low condition. *Decatur:* Cut off by drought. *Baldwin:* A dry July has injured corn; where "Golden dent" (the corn for this latitude) was planted in March the yield was good. *Bulloch:* Corn was matured before drought set in. *Dooly:* Late planted, cut short by drought. *Fayette:* Cut off by drought; rain would do it no good now. *Marion:* No rain since last report. *Schley:* Cut short by drought. *Sumter:* Cut short to some extent by drought; must plant early in well prepared soil, and cultivate *fast* to succeed in this latitude. *Dade:* Drought has done and is doing great injury. *Hancock:* An intensely dry spell reduced yield nearly half. *Warren:* Late planted is very poor. *Appling:* All but earliest planted cut off by drought. *Campbell:* Upland corn is very poor; drought the cause. *Henry:* That planted in February is good; if planted later was cut off by drought. *Lincoln:* A five weeks' drought has cut off crop one-half. *Milton:* Early planted is suffering for rain, and late planted cannot make anything at all unless rain falls in few days. *Whitfield:* A seven weeks' drought accounts for low condition. *Thomas:* Early planted is good; late planted is short from drought. *Rabun:* Badly injured by five weeks' drought. *Oconee:* The severe drought now prevailing is doing very serious injury. *Monroe:* Reduced to some extent by drought. *McDuffie:* Drought has cut it off 25 per cent. *Habersham:* Needing rain very much. *Gwinnett:* The outlook is not so good as at last report; drought the cause. *Gordon:* A seven weeks' drought has burned up corn. *Fulton:* Upland corn cut off more than half by drought. *Floyd:* Have had no rain for seven weeks; in some localities almost total failure. *Coweta:* Upland crop almost a failure. *Columbia:* Cut off about one-third by drought. *Carroll:* Upland corn almost a complete failure; drought the cause. *Forsyth:* No rain for seven weeks, and no prospect of any soon; uplands will make nothing. *Montgomery:* Drought has been very destructive. *Talbot:* Much reduced by drought. *Terrell:* Early corn is injured to some extent by drought, and late is cut off one-half. *Webster:* Drought has blighted hope for another large corn crop. *Early:* Very much injured by drought. *Paulding:* Upland corn will not make half crop; drought the cause. *Jackson:* A half crop is not possible; drought the cause. *White:* A long drought, accompanied by dry, cool wind, greatly damaged corn; much will not ear at all. *Newton:* Cut off 65 per cent. by drought. *Morgan:* Drought now prevailing is very damaging. *Jasper:* High, dry winds prevail, and the common expression is, "the crop is burned up"; farmers despondent. *Heard:* Drought has injured it. *Franklin:* Cut off by drought. *Crawford:* All crops suffered by drought. *Dougherty:* Cut short one-fourth by drought; no general rain since 20th of June. *Telfair:* The most damaging drought for ten years now prevails; not over half crop. *Banks:* Drought is now injuring crop; cannot say what damage may result, as it is the most severe drought for 20 years. *Worth:* Not a drop of rain since 3rd of July; burned up. *Gilmer:* In midst of severe drought; if rain does not come in few days yield will be reduced one-half.

FLORIDA.—*Bradford:* Corn is maturing well. *Leon:* Early corn did well; late a failure. *Clay:* There has been too much rain. *Suwannee:* An excellent crop. *Hamilton:* Matured, and is a fine yield. *Levy:* An extra crop. *Gadsden:* The crop is matured.

ALABAMA.—*Pike:* Injured first by wet weather and later by drought. *Monroe:* Injured by drought. *Marshall:* Drought will lessen yield. *Henry:* Injured by drought. *Crenshaw:* Very wet weather followed by drought has greatly lessened yield. *Cleburne:* Is suffering now from drought. *Clarke:* Late planted injured by drought. *Baldwin:* Drought in July following long wet spell has done great damage. *Chilton:* Injured by drought. *Dale:* Early planted is good; late is a failure from drought. *Lee:* Is suffering from drought. *Macon:* Excessively hot, dry weather is injuring corn. *Perry:* Extremely hot, dry weather has cut down crop to a disheartening extent. *Chambers:* Drought in some sections of the county has done damage. *Jackson:* Cut off by drought in some portions of the county. *Barbour:* Rain is much needed in some sections. *Montgomery:* Early corn is cut short by drought and late is needing rain very much. *Marengo:* Late planted is injured by drought. *Calhoun:* No rain since last report, which is playing havoc with crop. *Greene:* No rain of consequence in July and corn much damaged. *Limestone:* Had a general rain July 31, which will do great good. *Shelby:* Drought has already cut off crop 20 per cent.; if it continues loss will be doubled. *Cherokee:* Cut off one-half by drought. *Choctaw:* Condition of early planted corn has been reduced one-fourth since last report; late planted is nearly total failure. *Sumter:* Seriously injured by drought. *Conecuh:* Condition reduced 20 per cent. in ten days by drought. *Elmore:* The crop is all that could be desired. *Hale:* Seriously damaged on sandy land by drought. *Russell:* Drought throughout July cut off late corn. *Wilcox:* Drought has somewhat injured a fine prospect. *De Kalb:* Damaged by drought. *Marion:* Very much damaged by drought and will be much worse if rain does not fall soon. *Talladega:* Cut short by drought. *Franklin:* Not so good a crop as last year's by 25 per cent.; injured by drought. *Saint Clair:* Generally well cultivated but injured by drought. *Coosa:* An abundant crop.

MISSISSIPPI.—*Prentiss:* If it does not rain soon corn will be cut short. *Pa nola:* Damaged by drought. *Hinds:* Best crop for several years. *Carroll:* Drought injured crop 20 per cent. *Calhoun:* We are in the midst of drought which may do serious damage. *Benton:* Will be very seriously injured unless rain comes very soon. *Claiborne:* The crop is splendid. *Scott:* Injured to some extent by drought. *Choctaw:* Is suffering greatly from drought. *Noxubee:* The drought has literally burned corn up. *Winslow:* A seven weeks' drought is ruining corn. *Tippah:* A four weeks' drought has cut off corn to some extent. *Tate:* Is failing rapidly from drought. *Newton:* Injured by drought; late planted may be restored if rain comes soon. *Neshoba:* Cannot make over half crop, and will make less if we do not get rain soon. *Greene:* Are having good season now. *Clarke:* Drought has reduced our prospect. *Webster:* Very much injured by drought. *Yalobusha:* Very seriously hurt by drought and much of it beyond redemption. *Jasper:* Reduced by drought. *Itawamba:* Dry, hot weather has injured the crop. *Madison:* Early corn where well worked is very good; late is a failure.

LOUISIANA.—*Richland:* Promising. *Sabine:* Good, but begins to need rain. *Saint Marys:* Constant rains in June and part of July seriously injured corn. *La Fayette:* There has been too much rain; a bad year for farmers. *Assumption:* Seriously injured by continued heavy rains in June, and first part of July. *Catahoula:* Early planted is mature, and late is safe for good crop. *Bossier:* Failing very fast; have had no rain for seven weeks. *Grant:* Good crop; is safe. *Madison:* Best crop for years.

TEXAS.—*Panola:* Generally fine, but some injury from drought in certain localities. *Cass:* Early planted is good, late planted almost a failure from drought. *Gillespie:* A four months' drought about ruined the crop. *Guadalupe:* Cut short by drought. *Harrison:* Drought has reduced fine prospect to an average yield. *Jackson:* Injured

by drought. *Lampasas:* July has been very dry. *Marion:* Dry weather is injuring the crop. *Aransas:* No rain for more than a month. *Colorado:* The crop is light; drought. *Bexar:* About a half crop. *Caldwell:* The driest year since 1857. *Gregg:* Very little rain since June 12. *Kendall:* Cut off by drought. *Callahan:* The crop is made and the best ever grown in the county. *Collin:* Good crop, but one more rain would have made a better one. *Dallas:* The crop once so promising has been injured by drought. *Montgomery:* The crop is made and the best for years. *Rusk:* We have made a fine crop. *Coryell:* About matured and a most abundant yield. *Angelina:* Never had a better crop. *De Witt:* Cut off 40 per cent. by drought. *Lavaca:* Cut off one-half by drought, in some localities no rain since 24th of March. *Somerville:* Cut off 25 per cent. by drought. *McLennan:* July rains have made late corn, which was thought lost at last report. *Hopkins:* Cut off by drought. *Grayson:* Late corn cut off by drought. *Clay:* Damaged to some extent by drought.

ARKANSAS.—*Sharpe:* Favorable season and heroic work have brought corn to a full average. *Little River:* Rains have been very partial, and the crop as a consequence very spotted, some above average, much far below. *Garland:* Partial rains give us a very uneven crop, but it is not an average upon the whole. *Grant:* The drought is fast drying up the crop. *Dallas:* Damaged at least 25 per cent. by drought. *Calhoun:* Fine prospect. *Stone:* Showers since last report very propitious; has greatly improved. *Saline:* Late corn needs rain. *Lee:* Early corn suffered from drought; late corn is promising. *Independence:* Needs rain. *Sevier:* Terribly injured by drought. *Pope:* Six weeks without rain; if it comes soon may make half crop. *Logan:* Early planted injured by drought; late is doing well. *Arkansas:* Have had but little rain in the last seven weeks. *Columbia:* Cut off one-fourth by drought. *Howard:* No rain for eight weeks; half crop. *Prairie:* Cannot get over half crop; drought the cause. *Hempstead:* Suffered severely from eight weeks' drought. *Yell:* Suffered from a six weeks' drought. *Phillips:* Cut off by drought. *Cross:* Very poor crop; drought the cause. *Montgomery:* Ruined by drought. *Nevada:* If we do not get rain soon there will be a great falling off in corn crop. *Searcy:* Very bright prospect.

TENNESSEE.—*Shelby:* Never looked better. *Wilson:* Never had a better prospect. *Trousdale:* A fine yield is promised. *Rutherford:* Drought has materially reduced prospects. *Lewis:* Has improved during last month. *James:* Almost ruined by drought. *Houston:* Since the drought has passed corn looks well. *Hardeman:* Materially injured by dry weather. *Bradley:* Nearly burned up by drought. *Blount:* Looks very well, but the stand is so poor that it cannot make good crop. *Unicoi:* Looks fine; needs rain. *Rhea:* Needs rain. *Johnson:* Suffering very much from drought. *DeKalb:* The yield will not be so large as last year, but will be very fair. *Washington:* Very much in need of rain. *Smith:* Very promising, if it could only get rain. *Dyer:* Great improvement in last three weeks; think will make an average crop. *Obion:* Much damage by drought. *Carter:* Will be short crop unless rains come soon. *Sumner:* Great improvement since last report. *Polk:* A very severe drought has shortened the crop. *Moore:* Burned up by drought. *Gibson:* Season very favorable; fine prospect. *Franklin:* Shows good color, but present condition cannot be maintained unless we get rain soon. *Davidson:* Frequent rains have improved condition. *Lawrence:* Very promising. *Anderson:* Has suffered for rain in some sections of the county. *Bledsoe:* In some sections of the county a failure for the want of rain. *Hamilton:* A continuation of the drought a few days longer will make the crop a total failure. *Lincoln:* Injured by drought. *Sequatchie:* Cut short by drought; will make one-third of crop. *Knox:* Condition reduced one-half by drought. *Meigs:* Has suffered from drought; had a good rain to-day. *Tipton:* Suffered from drought.

WEST VIRGINIA.—*Pendleton:* Damaged somewhat by recent drought. *Wyoming:* Best in ten years. *Hardy:* A little late, but growing fast. *Randolph:* Well stalked, but late. *Jackson:* Needs rain. *Greenbrier:* Late, but looks well. *Pocahontas:* Growing finely. *Wetzel:* Wet weather retarding work. *Mason:* Suffering from drought.

KENTUCKY.—*Cumberland:* In grass to some extent, but doing well. *Laurel:* Looking well. *Lewis:* Good. *Martin:* Better yield than usual promised. *Shelby:* Will average full crop with good rain. *Grant:* Needs rain. *Calloway:* Bad season for corn; too wet. *Owen:* Never better prospect. *Nichols:* Suffering severely from drought; very short. *Taylor:* Good on uplands, drowned out on low lands. *Clinton:* Well cultivated above average; but there is some poor because of extreme wet season. *Garrard:* Fine prospect. *Allen:* Needs rain. *Ottowa:* Damaged by rain. *Wood:* Many fields given up to weeds. *Licking:* Very uneven and backward, but well worked and clean. *Fairfield:* Clean, and good prospect. *Meigs:* Extremely fine. *Montgomery:* Growing rapidly. *Athens:* Very uneven, some fields large and forward and others small and weak. *Crawford:* Growing fast on high ground. *Clinton:* Poor from too much rain in May and June and present drought; prospect poor. *Tuscarawas:* Weather good; considerable washed out on hillsides. *Henderson:* Very fine. *Elliott:* Hurt by excessive rain. *Lincoln:* Very promising, but needs rain. *Washington:* Excellent, but weedy. *Carter:* Suffering from drought. *Madison:* Very fine. *Rowan:* Rather light. *Fayette:* Suffering from drought. *Muhlenburg:* Insufficient cultivation, owing to excessive rain. *Marshall:* Backward, but good color. *Boyle:* Never more promising. *Lawrence:* Good and growing fast. *Green:* Suffered from hot weather, weeds, and grass. *Ohio:* Very backward from late spring. *Scott:* Suffering from drought. *Anderson:* Damaged by drought. *Harrison:* Suffering from drought. *Woodford:* Fine growth, but suffering for rain. *Gallatin:* Suffering from drought. *Johnson:* Damaged by drought. *Russell:* Fallen off, owing to continued rains. *Caldwell:* Prospect never better. *Bourbon:* Will be cut short by drought. *Trigg:* Promising.

OHIO.—*Van Wert:* Considerable Kansas seed-corn used and very late. *Hocking:* Good season. *Union:* Beginning to suffer from drought. *Highland:* Hurt by wet and now suffering from drought. *Vinton:* Damaged at least one-fourth by severe drought. *Scioto:* Has not been well worked, but promises average crop. *Greene:* Season very favorable for all crops. *Huron:* Good, but small. *Geauga:* Backward from wet weather, but promises average crop. *Brown:* Short of last report; cause unknown. *Morrow:* Rapid growth. *Mercer:* Very weedy. *Columbiana:* Looks well. *Knox:* Good, but too wet on low lands. *Washington:* Improved unusually since last report. *Franklin:* Suffered greatly from cold and wet weather, and very backward. *Muskingum:* Much better than expected, owing to timely rains. *Mahoning:* Hurt by hail and wind; poor on low lands. *Portage:* Fine condition. *Harrison:* Excellent crop promised. *Holmes:* Very small from poor seed and late planting. *Shelby:* Weedy and prospect not flattering. *Carroll:* Improved, but ruined on low land by wet weather. *Sandusky:* Wet weather preventing cultivation. *Logan:* Improved wonderfully since last report. *Paulding:* Cut short one-half by wet weather. *Cuyahoga:* Late from wet weather, but good. *Seneca:* Cultivation prevented by wet weather, and some on heavy soil will be a total failure. *Allen:* Backward and hurt by floods on low land. *Warren:* Suffering from drought and prospect uncertain. *Lucas:* Poor on wet land, owing to lack of cultivation. *Lorain:* Many fields too wet for working.

MICHIGAN.—*Oakland:* Making remarkable improvement. *Calhoun:* Improved in July. *Tuscola:* Many fields destroyed by excessively wet season; not yet tasseled. *Montcalm:* Season too wet for corn; fair crop on sandy soil and not one-fourth of a crop on heavy land. *Allegan:* Good on high land, but two weeks late on low lands and not so good. *Kalkaska:* Injured by cool and wet weather. *Lapeer:* Could not be worked, and backward. *Monroe:* Many fields abandoned, owing to excessively wet weather. *Hillsdale:* Too wet for proper cultivation. *Branch:* Cultivation entirely prevented by heavy rains, and prospect poor. *Genesee:* Much not cultivated, owing to continued wet season, and few good fields. *Ingham:* Thousands of acres a complete failure, owing to excessive rains. *Lake:* Very weedy. *Manistee:* Backward, but good prospect. *Osceola:* Suffering from excessive wet. *Macomb:* Ruined on low land by excessive rains, and prospects very poor. *Saint Clair:* Nearly ruined by

excessive wet. *Wayne:* Almost a failure from continued wet weather. *Mason:* Very poor from excessive wet. *Saint Joseph:* Two weeks late, and small. *Oceana:* Very short from cold and wet, but growing fast. *Newaygo:* Never so poor a prospect, owing to poor seed and continued rains.

INDIANA.—*White:* Much drowned out. *Scott:* Looks well, but needs rain. *Ripley:* Coming out finely, and full average crop promised. *Howard:* Late, but doing finely. *Huntington:* Good, but suffering from rain. *Fulton:* Improved very much since last report by fine weather. *Floyd:* Best stand for years. *Brown:* Damaged some by chinch-bug and ants, but doing very well. *Blackford:* Damaged by rains in June and July; grassy and weedy. *Porter:* Growing fast on high land; too wet for corn on low land; two weeks late. *Wabash:* Will be 25 per cent. below average, owing to poor seed and excessive rain. *Madison:* Badly in weeds. *Whitley:* Very uneven; some fields failures from excessive wet. *Wayne:* Hurt by excessive rains and weeds. *Harrison:* Later than usual, but growing finely; needs rain. *Clark:* Looks well, but needs rain badly. *Rush:* Needs rain greatly. *Sullivan:* Good prospect, owing to fine weather. *Hendricks:* Never a better prospect. *Orange:* Suffered from drought. *Ohio:* Needs rain. *Dearborn:* Suffered from drought. *Union:* Suffering from drought. *Warrick:* Needs rain. *Gibson:* Large area and good. *Shelby:* Never a better prospect. *Tippecanoe:* Two weeks late and unusually weedy, owing to wet season. *Decatur:* Very weedy. *Wells:* Very backward; poor culture, and poor prospect. *Jefferson:* Needs rain. *Hamilton:* Good, but late. *Jay:* Weedy, especially on low land, but very good on high ground. *DeKalb:* Could not be cultivated, owing to very wet weather. *Marion:* Hurt by rain and wind storms. *Marshall:* Two weeks late and uneven. *Parke:* Damaged fifteen per cent. by heavy rains and now suffering from drought. *Bartholomew:* Excellent, but needs rain. *Jennings:* Good, but late. *Lake:* Best in two years. *Lagrange:* Very late and poorly cultivated, owing to excessive rains. *Cass:* Injured by wet weather and very weedy. *Newton:* Small, but of good color and stand; 90 per cent. not tasseled. *Montgomery:* Good prospect with good season. *Franklin:* Will be much above average with timely showers.

ILLINOIS.—*Tazewell:* Greatly damaged by cyclone on July 16. *Edgar:* Good prospect with rain. *De Witt:* Scarcely ever a better stand or clearer, but many fields are not showing tassels and some short in stalk; growth retarded by cold nights. *Morgan:* Has made good growth but will not make more than three-fourths of a crop. *Williamson:* Could not be worked on flat land owing to excessive wet. *Effingham:* Drowned out on flat land but good on rolling land. *Clark:* Average would be greater but for much corn being thin owing to bad seed. *Whiteside:* Twenty days late, thin stand, and not half tasseled. *Perry:* Needs rain, does not look as promising as in June. *White:* Suffering from drought and prospect poor unless it rains. *Lee:* Late, and will require fine weather to insure good crop. *Massac:* Was rather late, but is greatly improved. *Henry:* Uneven and small, but good color. *Winnebago:* Has made rapid growth in July. *Sangamon:* Two to three weeks late and thrifty, but weedy. *Peoria:* Small, but growing fairly well; cannot make a full crop. *Montgomery:* Will be the largest crop in years. *Marshall:* Very backward; cold nights. *Fulton:* Much is small and backward; complaint of insect in roots. *Washington:* Suffered from lack of cultivation and excessive rain; blown down and tangled to some extent. *Cook:* Suffered from poor seed but growing well. *Woodford:* Unprecedented growth in last six weeks and prospect good. *Alexander:* Improved since last report; Mississippi bottoms drowned out. *Jackson:* Looks good except on some peat lands. *Joe Daviess:* Made excellent progress; 10 per cent. better than at this time last year. *Jefferson:* Needs rain but promises good crop. *Kankakee:* Too wet for corn. *Jersey:* Improved recently, and fair average crop promised. *Saint Clair:* Failure on all low lands, but good on high ground. *Carroll:* Made rapid growth in July. *De Kalb:* Splendid. *Pope:* Late, but good. *Grundy:* Backward, thin, and uneven. *Mason:* Improving. *Livingston:* Nights too cold for corn. *Ogle:* Has improved; good color, but uneven and late. *Johnson:* Looks

well, but needs rain. *Putnam:* Growing finely, but thin on ground and late. *Lawrence:* Needs rain. *Madison:* Injured by heavy storms; many chinch bugs in some fields. *Wabash:* Needs rain. *Kendall:* Growing fast, but two weeks late and light stand. *Henderson:* Small and uneven; light crop indicated. *Brown:* Improving, and with seasonable rains will be nearly average. *Fayette:* Good, but needs rain.

WISCONSIN.—*Barron:* Good color, but late. *Crawford:* Corn will make a good crop. *Waushara:* Half a crop indicated, owing to rain and cold. *Isanti:* Very backward, but promises well. *Vernon:* Two weeks late, but good. *Washington:* Very backward, and unless favorable season will be a half crop. *Washington:* All crops hurt by excessive rain. *Richland:* Very backward from excessive wet. *Green:* Seriously hurt by severe hail-storm on July 20. *Fond du Lac:* Weedy from excessive wet, but better prospect than last year. *Walworth:* More backward than last year, owing to cold and rain. *Green Lake:* Greatly improved in the past month. *Saint Croix:* Weather too cool for corn. *Milwaukee:* Poor on low land from excessive rains. *Racine:* Growing fast, but will be late. *Kenosha:* Growing fast. *Jefferson:* Improved very fast in July.

MINNESOTA.—*McLeod:* Backward from wet season. *Carver:* Grown very fast since last report. *Houston:* Made good growth and is of good color. *Big Stone:* Good, but acreage reduced two thirds by the cold and wet spring. *Watonwan:* Improved somewhat in July. *Waseca:* Good, but two weeks late. *Scott:* Growing fast. *Sherburne:* Ten days late, but good. *Renville:* Good on uplands, but poor on lowlands. *Dodge:* Good, but nearly a month late. *Jackson:* Backward, but good stand. *Stearns:* Doing well, and fair crops promised. *Rock:* Good, but late. *Pipe Stone:* Late, but growing fast, and prospect fair. *Meeker:* Looks very promising. *Le Sueur:* Badly injured by wind-storm. *Kanabec:* Late. *Brown:* Very backward from cold and wet spring. *Pope:* Season too cool for corn.

IOWA.—*Cedar:* Ten days, late but looks well. *Clark:* Greatly improved in July by favorable weather, and average crop promised. *Cerro Gordo:* Improved wonderfully in July. *Hardin:* Rapid growth. *Lee:* Improving. *Iowa:* Smaller than usual, but promises well. *Tama:* Booming. *Appanoose:* Not worked on low land and overgrown with weeds. *Clinton:* Much destroyed by heavy hail and wind storms. *Calhoun:* Good, and two weeks earlier than last year. *Greene:* Will be average with good season. *Page:* Ten days late. *Ringgold:* Improved considerably since last report. *Winneskiek:* Looks well, and growing fast. *Plymouth:* Season too cool and wet. *Marion:* Suffering from drought. *Mitchell:* Ten days ahead of last year's, and promising. *Mahaska:* Has come out wonderfully recently. *Keokuk:* Two-thirds of crop fine, the rest worthless from rain. *Des Moines:* Two weeks late, but growing well. *Bremer:* Booming, but late. *Allamakee:* Has made rapid growth in the past month; washed out on river bottoms. *Howard:* Much blown down by a great wind-storm on July 20; also damaged by heavy rainfalls. *Linn:* Backward. *Union:* Damaged two-thirds by continued spring rains. *Sioux:* Three weeks late. *Johnson:* Ten days late, but prospect good.

MISSOURI.—*Pemiscot:* Nearly a failure in many places from excessive wet. *Nodaway:* Cut back by frost in May. *Lincoln:* Improved wonderfully since last report. *Crawford:* Improved greatly since last report. *Shelly:* Looks splendid, and best crop for years. *Howell:* Improved by copious rains. *Johnson:* All fields spotted by wet places; worthless in bottom lands. *Platte:* Improved greatly by recent good weather. *Audrain:* Small and late, and poor prospect. *Greene:* Fine. *Moniteau:* Better than expected. *Macon:* Improved beyond expectation. *Scotland:* Improved fast since last report. *Madison:* Improved greatly by recent rain; looks better than for years. *Monroe:* Improved greatly since last report by very fine weather. *Saint Genevieve:* Superb on upland but washed out on bottoms. *Stone:* Prospect of largest crop ever raised. *McDonald:* Good on upland, but washed out on bottoms, and hundreds of acres swept clean. *La Fayette:* Very uneven owing to wet season and poor cultivation; prospect for short crop. *Hickory:* Splendid. *Gasconade:* Splendid. *Douglas:* Suf-

fered from excessive wet. *Atchison:* Very late, but fair prospect. *Caldwell:* Poorest in fourteen years from excessive rains. *Grundy:* Much drowned out; prospect for earing is good. *Linn:* Nearly a failure from excessive rains. *Holt:* Season too cool for corn; much drowned out by river overflow. *Washington:* Fine, but late. *Lawrence:* Small but earing well since recent rain; injured somewhat by chinch bugs. *Taney:* Best for many years. *Pettis:* Tasseled out very low. *Saint Francois:* Looks fine, but two weeks late. *Worth:* Badly cultivated; too much rain.

KANSAS.—*Rice:* Suffering from drought and much loss promised unless rain comes soon. *Ellis:* Almost ruined by drought, but improved very greatly by recent rains. *Dickinson:* Best in ten years. *Coffey:* Fine, but needs rain. *Lyon:* Damaged by drought. *Norton:* Cut short by hot winds. *Nemaha:* Splendid. *Phillips:* Looks splendid. *Brown:* Late, but improving fast. *Harper:* Hurt somewhat by drought. *Kingman:* Largest crop ever raised, and fine. *Lincoln:* Will be a light crop owing to severe drought in July. *Pottawattomie:* Saved by timely rains. *Wyandotte:* Has made remarkable progress since the last report. *Rawlins:* Badly hurt by hot winds. *Clay:* Splendid, owing to timely rain. *Crawford:* Good stand and well worked. *Atchison:* Backward and weedy from continued wet weather. *Rush:* Complete failure from drought and hot winds. *Greenwood:* Injured by heat and drought. *Cherokee:* Best prospect in years. *Cloud:* Growing fast and improved wonderfully. *Davis:* Improved greatly by recent rains. *Labette:* Prospect never better *Marshall:* Greatly damaged by recent drought. *Sedgwick:* Never better. *Osborne:* Damaged by hot wind, but greatly improved by recent rains. *Marion:* Good in north and poor in south of county from drought. *Lane:* Nearly ruined by hot winds. *Decatur:* Nearly destroyed by severe drought and hot winds. *Montgomery:* Never more promising.

NEBRASKA.—*Polk:* Damaged by heavy hail-storm in east part of county. *Saunders:* Suffering for rain. *Hamilton:* Fine, but backward. *Boone:* Making a rapid growth. *Douglas:* Backward, and small in the north of county; never had such a rich color. *Greeley:* Three weeks late, and very weedy. *Johnson:* Poor from floods, hail, and wind, and poor prospect. *Knox:* Good growth, but very backward; many poor stands from bad seed. *Seward:* Low average, due to heavy winds, hail, and drought. *Antelope:* Twenty days late, but growing fast. *Adams:* Looks well, but backward; promises largest crop ever grown. *Cass:* Ten days late. *Gosper:* Suffering from drought. *Furnas:* Suffering from drought. *Platte:* Very backward and weedy, but prospect good. *Fillmore:* Backward, but prospect good. *Hall:* Backward.

OREGON.—*Douglas:* Being ruined by severe and long drought.

COLORADO.—*Douglas:* Season too cold. *Weld:* Late, but well worked and progressing favorably.

DAKOTA.—*Morton:* Great loss from bad seed. *Codington:* Suffering from drought. *Yankton:* Late, and condition below average. *Hutchinson:* Good growth, but poor stand. *Lincoln:* Backward and prospect poor. *Aurora:* Improved very fast in past ten days; acreage a little short because of poor seed. *Hanson:* Backward. *Hughes:* Splendid.

SPRING WHEAT.

The average of condition of spring wheat for August 1 is 97, the same as in 1882, but higher than for any previous August since 1877. In Wisconsin recent rains have injured the crop in the southern and southwestern counties. Average, 90.

The prospect in Minnesota favors a crop of 13½ bushels per acre, notwithstanding bad weather in early spring and subsequent drought in northern counties. Condition, 98.

The fears excited by excessive heat early in July in Northern Dakota have been happily dispelled. Cass and Richland Counties promise a

better yield than last year. Other counties will scarcely equal their last record. In South Dakota the harvest is progressing, the straw is bright, the heads large, and the yield better than last year.

The returns of August do not essentially change the indicated aggregate of July for the entire crop. The result of the harvest will be more fully tested on the return of the thrashers' blanks. It is now certain that a shortage exists, which will require all the surplus of last year and keep the prices well sustained.

A cable dispatch received from the London statistical agent of the Department says that the weather has been unsettled during the first ten days of August, and temperature low for this time of the year. The wheat market is advancing and stocks are large. The quality of the new crop is fair. The general prospects of last month's dispatch are confirmed. Counting decrease of acreage, the total output of European wheat will be one-fifth less than last year, and one-tenth below average. German, French, and Russian advices are worse.

OATS.

The condition of oats is represented by 100, a figure surpassed only by last August since 1878. North of the parallel of 40° high condition is almost universal. In some western districts there has been injury from lodging, the result of storms.

BARLEY.

Condition of barley averages 95, the same as in August, 1882, but higher than in any previous year since 1874. The average for New York is 102; Pennsylvania, 97; Ohio, 80; Michigan, 96; Wisconsin, 96; Minnesota, 96; Iowa, 99; Nebraska, 102; California, 88. These States produce more than two-thirds of the crop.

POTATOES.

The returns indicate full development of the potato crop; condition, 101. The promise is better in the central States of the West than on the northern border, where the soil has been saturated with moisture.

BUCKWHEAT.

A breadth of buckwheat equal to that of last year has been sown, and its condition is high, represented by 99.

TOBACCO.

The average condition of tobacco is 88. Kentucky, 93; Tennessee, 89; Virginia, 74; North Carolina, 70; Ohio, 93; Pennsylvania, 96; Connecticut, 87; Wisconsin, 90.

SORGHUM.

This crop promises a fair yield of sirup, but sugar is an unknown result, except in a few factories whose efforts to produce sugar were stimulated last year by aid from this Department, which will be continued the present season. The condition of the crop compares favorably with that of corn. In the South, where the sugar cane can be grown, there is a disposition to give up sorghum, as the yield of sirup is far greater with the ribbon cane.

CANE SUGAR.

The prospects for sugar this year in Louisiana are very encouraging. The average of condition is 96, which indicates a large crop. Last year an advance was made in production, the product being 241,220 hogsheads of sugar, equivalent to 303,066,258 pounds; and 15,716,755 gallons of molasses.

HAY AND PASTURE.

A heavy growth of grass and clover has been secured. Rains have interfered with the process of curing in every State, but in none to the extent of serious injury. The quality of clover hay, as compared with last year, is lowest in Michigan and Wisconsin, standing at 90 in each; while the same comparison shows a product increased in both States by 10 per cent. From Maine to Virginia the condition of timothy on the first day of August was 100 or better, except in Massachusetts, New York, New Jersey, Maryland, and Virginia, and only in the last is the average as low as 95. The highest mark for the whole country is in West Virginia, 108; and in no State west of that are the figures below 100, except in Wisconsin, 98, and in Oregon, 75. The season has continued favorable for pasture, and no damage from insects is reported. The table will show the condition of grass in the various States.

FRUITS.

The decline in the apple prospect, noted in the July report, was equally marked on the first of August. Falling from the trees continued through July. Reference to the table verifies the report of low condition made by nearly every correspondent. Peaches in New York alone showed an improvement since the first of July. In Maryland the average on that date was 83, it is now 75; the fine quality of the fruit is mentioned in the counties of Talbot, Caroline, and Carroll. The condition in Michigan fell during July from 70 to 58. Grapes lost ten points in Ohio and gained five in California. The orange crop in Florida is promising. The correspondents for Alachua and Orange estimate an increase over last year's product of 15 per cent. in the former and 25 per cent. in the latter county.

THE DE SOTO HOGS OF LOUISIANA.

There is a breed of hogs in the swamp regions of some of the Gulf Coast States which have more than three hundred years' of existence in America, if traditions of the pioneers are reliable. They appear to have retained in a marked degree their ancient characteristics, in a condition something more than semi-wild, and under the rule of "the survival of the fittest," to have made actual improvement, and to have demonstrated the fitness of the climate and spontaneous production of that region for the growth and development of swine. This variety of the genus *Sus* appears to be decidedly *sui generis*.

The correspondent of the Department of Agriculture for Catahoula Parish, Louisiana, which lies between the Little Red River and the Washita, Mr. Michael Dempsey, refers to this breed as the De Soto hogs, and says their progenitors were brought out from Spain in the expedition of Ferdinand De Soto, in 1539, as part of the subsistence of an armament of 950 foot and 350 horsemen in search of golden treasures in Florida, and that during his five years of fighting his way among the fierce savages of Florida, Georgia, Alabama, Mississippi, and Louisiana many of his large numbers of swine took advantage of their liberty in the swampy forests abounding in the territory traversed, successfully disputing possession with the alligator, panther, bear, and wild cat, so far, at least, as to escape annihilation. The following statement is quoted concerning this remarkable breed:

They are fleet of foot, keen of scent, sharp of hearing, with an eye that looks red with anger; their ears are short and erect like a horse, only broader and very thick, their color is a pale blue, or dingy white, with a sprinkling of red sandy ones. If any other color prevails, such as Jacob's cattle, ring-streaked, spotted, or speckled, it is foreign blood.

These hogs are seldom fed by their owner, nor do they care for it, as they have learned to root pig or die, and I have found some so wild that when an ear of corn was thrown in front of them they would jump from the smell of it as if they were struck with electricity. If the mast (nuts of the forest) is good, they weigh at one year old 100 pounds net, at eighteen months from 140 to 150 pounds net, but they are rarely killed under three years old, and their average weight is 200 pounds net. If the mast has failed, they are allowed to run until they grow fat. They roam in herds of from a dozen up to forty or fifty, then they form more herds, and establish their location in the woods, where they are seldom intruded upon by other herds. Europeans, and even people in other sections of this Union may ask, how does the owner know his own hogs, and how does he catch them when wanted. There are only about 1,000 people who own hogs in this parish of Catahoula, and they all cut a different mark in the ears of hogs, cattle, and sheep, most of which marks are placed on record in the recorder's office. As for catching them to mark or kill it is quite simple to those who are used to it. The hogs may range five, ten or fifteen miles from home, and the owner makes preparation to kill or mark them by building a rail pen, leaving a slip gap open. The pen must be in a dense thicket near his house with wings leading from it at right and left oblique or V-shaped. The Opelousas pony or mustang, is mounted, and the two leopard dogs which have been watching the pen, are eager for the hunt. These hog dogs are a peculiar breed: they are a cross between the wolf and common cur, and they may be trained to hunt anything, but their favorite

game is the hog. They can smell a hog, with their nose up in the air, over half a mile away, and when they find a bunch they commence to bark, which brings every hog within hearing to the rally. If the right ones are not there the dogs are called off, and they hunt for more until the correct ones are found. The rider must not go too near or the hogs would scatter, so if he can identify the mark as his, the dogs, which have been circling round the bunch with the speed of greyhounds, are ordered to go ahead. They make a dash at the herd, with furious barking, but the hogs, having formed in line of battle, compel the dogs to retreat, which they are certain to do towards home, and thus it continues until the hogs have whipped the dogs into the pen, where they jump over the fence and continue to bark on the other side while the man fastens up the gap. Many excellent breeds of hogs have been introduced, such as the Irish Grazier, the Chester White, Berkshires, and Poland Chinas, but they soon degenerate, and in a few years they are only a hog, and a razor back or scrub at that, while the De Soto hog is better now than he was forty-three years since, which was my first acquaintance with them, when they made me run up a tree against my will.

TEMPERATURE AND RAINFALL.

[From Signal Service Weather Review.]

Average temperature for May and June, 1883.

Districts.	Average for May Signal Service observations.		Comparison of May, 1883, with the average for several years.	Average for June Signal Service observations.		Comparison of June, 1883, with the average for several years.
	For several years.	For 1883.		For several years.	For 1883.	
	°	°	•	°	°	°
New England	55.1	54.8	0.3 below.	64.4	66.7	2.3 above.
Middle Atlantic States	61.4	61.5	0.1 above.	70.5	71.7	1.2 above.
South Atlantic States	70.0	68.9	1.1 below.	77.8	78.2	0.6 above.
Florida Peninsula	77.0	76.0	1.0 below.	81.7	82.3	0.4 above.
East Gulf	73.3	70.6	2.7 below.	79.4	79.0	0.4 below.
West Gulf	74.4	72.3	2.1 below.	80.5	80.4	0.1 below.
Rio Grande Valley	77.7	78.8	1.1 below.	.....	.....	
Tennessee	69 6	66.2	3.4 below.	76.3	76.0	0.3 below.
Ohio Valley	65.9	62.1	3.8 below.	73.4	72.5	0.9 below.
Lower Lakes	56.2	51.6	4.6 below.	65.3	64.7	0.6 below.
Upper Lakes	52.6	47.5	5.1 below.	61.9	60.8	1.1 below.
Extreme Northwest	54.1	47.6	6.5 below.	61.6	62.4	0.8 above.
Upper Mississippi Valley	63.9	57.8	6.1 below.	71.6	69.3	2.3 below.
Missouri Valley	62.4	55.5	6.9 below.	72.0	68.3	3.7 below.
Northern Slope	53.9	49.2	4.8 below.	63.0	61.9	1.1 below.
Middle Slope	60.6	58.5	2.1 below.	72.3	69.0	3.3 below.
Southern Slope	73.4	73.0	0.4 below.	78.4	78.6	0.2 above.
Northern Plateau	54.9	55.0	0.1 above.	.....	.....	
Middle Plateau	57.0	55.0	2.0 below.	.....	.....	
Southern Plateau	68.6	65.2	3.4 below.	78.0	78.9	0.9 above.
North Pacific Coast	54.9	55.8	0.9 above.	62.0	63.6	1.6 above.
Middle Pacific Coast	62.6	61.2	1.4 below.	68.7	70.9	2.2 above.
South Pacific Coast	67.2	65.5	1.7 below.	72.4	74.2	1.8 above.
Mount Washington, N. H	33.5	34.0	0.5 above.	43.4	46.6	3.2 above.
Pike's Peak, Colo	22.5	19.5	3.0 below.	33.3	31.3	2.0 below.
Salt Lake City, Utah	.....	.....	.....	68.7	70.5	1.8 above.

Average precipitation for May and June, 1883.

Districts.	Average for May Signal Service observations.		Comparison of May, 1883, with the average for several years.	Average for June Signal Service observations.		Comparison of June, 1883, with the average for several years.
	For several years.	For 1883.		For several years.	For 1883.	
	Inches.	*Inches.*	*Inches.*	*Inches.*	*Inches.*	*Inches.*
New England	3.36	4.77	1.41 excess.	3.60	3.36	0.24 deficiency.
Middle Atlantic States	2.96	2.38	0.58 deficiency.	3.52	5.22	1.70 excess.
South Atlantic States	3.22	6.13	2.91 excess.	4.57	6.49	1.92 excess.
Florida Peninsula	3.50	3.33	0.17 deficiency.	5.70	4.80	0.90 deficiency.
East Gulf	4.40	4.37	0.03 deficiency.	4.29	4.91	0.62 excess.
West Gulf	5.00	3.50	1.50 deficiency.	3.37	3.73	0.36 excess.
Rio Grande Valley	4.06	1.13	2.93 deficiency.	.....	.....	
Tennessee	3.74	4.28	0.54 excess.	4.34	3.49	0.85 deficiency.
Ohio Valley	3.85	4.62	0.77 excess.	4.64	4.21	0.43 deficiency.
Lower Lakes	2.77	5.79	3.02 excess.	3.26	4.04	0.78 excess.
Upper Lakes	3.64	4.49	0.85 excess.	4.47	5.38	0.91 excess.
Extreme Northwest	3.33	1.68	1.65 deficiency.	4.10	2.50	1.60 deficiency.
Upper Mississippi Valley	4.49	5.17	0.68 excess.	5.82	5.98	0.16 excess.
Missouri Valley	4.40	7.43	3.03 excess.	5.06	7.98	2.92 excess.
Northern Slope	2.79	2.75	0.04 deficiency.	2.53	3.43	0.90 excess.
Middle Slope	3.34	4.43	1.09 excess.	2.01	2.27	0.26 excess.
Southern Slope	2.54	4.45	1.91 excess.	3.26	1.70	1.56 deficiency.
Northern Plateau	1.02	2.01	0.99 excess.	.....	.....	
Middle Plateau	1.34	0.65	0.69 deficiency.	.....	.....	
Southern Plateau	0.22	0.38	0.16 excess.	0.40	0.03	0.37 deficiency.
North Pacific Coast	2.38	3.24	0.86 excess.	1.50	0.04	1.46 deficiency.
Middle Pacific Coast	0.78	3.11	2.33 excess.	0.18	.....	0.18 deficiency.
South Pacific Coast	0.20	1.00	0.80 excess.	0.02	0.04	0.02 excess.
Mount Washington, N. H	6.39	9.10	2.71 excess.	8.53	11.30	2.77 excess.
Pike's Peak, Colo	4.27	2.80	1.47 deficiency.	1.94	1.76	0.18 deficiency.
Salt Lake City, Utah	.....	.....	.....	0.75	0.33	0.42 deficiency.

RAILWAY WEATHER-SIGNALS.

The Ohio Meteorological Bureau, Prof. T. C. Mendenhall, director, has, through the co-operation of the Cleveland, Akron and Columbus Railroad Company, introduced a system of railway weather-signals by which the weather conditions, as predicted by the United States Signal Service, are shown from the sides of the baggage cars of the mail trains. This system of weather forecasts was successfully operated during April, over 85 per cent. of the predictions being verified.

The following is an explanation of the signals used:

The signals will consist of two figures, which differ in color, being red or blue, and in form being shaped like the sun, the moon, or a star.

The red color has to do with the temperature, and the blue with the state of the weather, as rainfall or snow; they are used as below:

Red.—Sun, higher temperature; moon, lower temperature; star, stationary temperature.

Blue.—Sun, general rain or snow; moon, clear or fair weather; star, local rain or snow.

By "higher" or "lower" temperature is meant that the temperature at any hour of the day may be expected to be higher or lower than it was at the same hour the previous day; and by "stationary" temperature,

it will not vary more than three or four degrees from the record of the day before.

"Local" rains are such that are likely to occur at one or more points along the line, but will not probably be "general." Local rains are not generally of long duration.

EXTRACTS FROM REPORTS OF STATE AGENTS.

MAINE.

The weather has been most favorable for haying during the greater part of the month. Early in July, just at the commencement of the hay-harvest, work was interrupted for several days on account of bad weather, and some hay was injured. But the weather, for the most part, has been exceedingly fortunate in character. One of the largest crops of hay ever secured in Maine has been obtained this season, at an injury from unfavorable weather of not over 8 per cent. The crop is estimated at 1,550,000 tons. In consequence of this large yield stock is high and but little can be purchased, as farmers are determined on keeping more the coming winter than last winter.

Grain crops of all kinds will give a very heavy yield. Oats especially are in most excellent condition, with a heavy growth of straw, and large, well-filled heads. In many fields I have seen the past week the yield will be fully 50 bushels to the acre. Wheat is in excellent condition, and I hear of no loss from insects or pest. In a few instances the grain has been lodged from showers and winds, but the damage from these causes will be slight. Rye, barley, and buckwheat are promising heavy yields.

Potatoes promise a very large crop. The acreage was much increased over last year, and the present condition of the crop was never more favorable at this season. The growth of vines is rank and stocky; there is no indication of pest; and where early sorts have been planted for market the yield is large.

Corn in this State has come to be divided into two classes, in consequence of the growing importance of the sweet-corn canning industry, viz., sweet corn for packing or canning, and yellow or common field corn. The corn-canning business is one that is constantly growing in importance, and new factories are being erected every season. In 1882 there were ninety-seven corn-canning factories in operation in Maine, and this year the number will be fully one hundred. Although some of the larger factories have as many as three hundred and fifty acres each planted for them, and in some cases four hundred acres, the average is not above 150 acres to each factory, or 15,000 acres of sweet corn for the entire State. A good average yield of sweet corn per acre is not below 1,500 cans, and experts place the yield of the State this year at 12,000,000 cans. I place the area of yellow or field corn this season at 12,500 acres. This will make the total acreage of corn in the State 27,500 acres.

The season has been a most favorable one for grazing, and pasturage is in fine condition. Stock of all kinds has made a good growth and dairying has been carried on at a good profit. The frequent rains have kept a June-like appearance to our pastures and there is no appearance of the usual summer drought.

Apples will be very nearly a failure, or in other words the yield now indicates the lightest crop for years. Trees blossomed with the promise of an average yield, but from some cause the blossoms did not set. This is true in every county in Maine.

NEW HAMPSHIRE.

The hay crop will be considerably above an average one and of excellent quality. The only unfavorable feature connected with it is that clover is not quite up to the standard. Corn is remarkably well developed, and potatoes are extremely healthy, the growth of tops having been large; less damage from bugs has resulted than in

an average year. Seldom at this date is pasturage so good. Very light will be the apple crop.

An evil which now alarms our agriculturists in Merrimack County more than aught else is devastating the towns of Boscawen, Franklin, and Canterbury. It comes in the shape of the grasshopper, and the injury which it has inflicted has been wide spread and serious. Entire fields of grass have been eaten, and gardens plundered of their contents. Prof. C. V. Riley, of the Department, visited the locality in May, and the information which he gave J. K. Chandler, esq., has been acted upon by him and others, so that scores of bushels of locusts have been captured. The mixture of kerosene oil, sour milk, and water, used in the grasshopper machines is death to them, and if the farmers whose fields are invaded would combine in a war against the foe their suffering would be most materiallly essened. Mr. Chandler has fought the insect zealously for a month with machines, and has succeeded in keeping his vegetables almost free from them; he attributes part of his success in this direction to a strip of corn planted between his garden and hay-field, and extending completely about the former. Only a few farmers have been energetic enough to combat the grasshopper systematically. Since 1873 has the section named been a permanent dwelling place for the invaders. They are more numerous this season than in any other year since 1874. They are gradually widening the territory which they occupy.

MASSACHUSETTS.

July has been a very favorable month for the growth of all of the important crops grown in our State. Indian corn, the first of August, looks quite as promising as it did the first of July. The rains have come just often enough to keep the soil in the best condition for rapid growth. Potatoes (Irish) continue to maintain the same high condition as they did in June. They have now advanced so far as to make it quite certain that the harvest will be very large. Pastures are in excellent condition. Timothy hay in the eastern counties is not quite up to an average, but in the other counties it is enough above to make the crop in the State an average. Apples continue to fall in condition. The crop promises better in the eastern than the center and western counties.

NEW YORK.

The frequent rains which have prevailed all over the State during July have advanced all kinds of vegetation and caused a splendid growth, making future harvests promising and affording abundance of pasture. The favorable weather has advanced the condition of corn and so much improved its prospects that the average is increased several per cent. All kinds of spring grain have made a large growth, and the yield will be in proportion, as the favorable weather and general freedom from rust have given the berry a plump size. Oats and barley are especially good, and the yield of both of these crops will undoubtedly be above an average. Barley seems to produce as well as it did thirty-five and forty years ago, before the soil failed to produce paying crops. Only four counties report less than an average of oats, and all others in excess. Except in limited localities present indications point to an excessive crop of potatoes. The crop of hay has been large and that of clover above an average. The condition is below on account of the "catching" weather during its gathering, which has prevailed quite generally over the State. The apple crop is the most exceptional of any, and the possibilities of a three-fourths yield has been reduced to less than one-half, with a continuous reduction on account of defective fruit.

PENNSYLVANIA.

The State agent reports the area planted in corn this year at 1,133,280 acres and the condition as "fair." The condition of tobacco is reported good, with an area of 23,155 acres. The area of Irish potatoes is 175,000 acres, with condition good.

SOUTH CAROLINA.

The corn crop has been materially injured by the long and continued drought, and from dry winds prevailing in many parts of the State. The upland corn is almost a failure; and the bottom lands, owing to the heavy freshets during the spring months, could not be planted. Since then the drought has prevented farmers from getting in the area on such lands, and what has been planted is very late, and dependent on future seasons. The wheat has all been harvested in fine condition. But little spring wheat planted. Cotton was much retarded in its growth by the late spring, wet, and cold weather, and has since been much injured by grass, and in some sections the inefficiency of labor has to some extent contributed to this cause. Sorghum is reported in fair condition; average, 84. For the last year or two, sugar cane has been in many sections considerably increased, and to some extent supplanting the sorghum; condition, 86. Very little timothy and clover hay planted; condition, timothy, 60; clover hay, 83.

GEORGIA.

In consequence of severe drought the condition of all crops in Georgia is less favorable than last month. Corn has been seriously injured in every part of the State, but less in the southern than in the northern half, because the crop was further advanced in the former before the drought commenced. In the southern half of the State the crop has been injured 20 per cent., in the middle or hill section 30 per cent., and in the northern or mountain section, where the corn is not yet too far advanced to be much improved by good seasons, the injury is 25 per cent. The crop of the whole State is 25 per cent. below an average, and 40 per cent. below that of last year. Cotton is very unpromising. The plant is small, much of it blooming at the top, indicating that its growth is nearly completed. A large part of the State is still suffering from drought, while local rains have been so excessive as to cause shedding of forms. The crop is ten days late, and the plants small and uneven, but well fruited.

ALABAMA.

The corn and cotton crops of this State are "badly spotted." During June excessive and continuous rains prevailed over the entire State, causing a succulent and rank growth of the plant, accompanied by a large amount of grass. The removal of the latter necessarily caused some damage even where labor was abundant and favorable weather subsequently prevailed. But in many counties labor is scarce, and the contest for mastery over "General Green" has been only partially successful. Hence we find the crops in many parts of the State still grassy, and it is now too late to expect good yields. Again, many parts of this State, particularly the middle portion from east to west, have again suffered severely from a drought reported in Randolph, Clay, Talladega, Saint Clair, Jefferson, Shelby, Bibb, Tuscaloosa, Pickens, Perry, Hall, Green, and Sumter, as of from four to five weeks' duration. Montgomery and Dallas also report considerable damage from dry weather. This alternation of excessive droughts and rains is particularly damaging, and hence in these counties crops are as a rule poor. In the southern tier of counties an excess of rain has in many places prevailed, and here we find crops good or bad just in proportion to their proper cultivation. In North Alabama, particularly the valley of the Tennessee, more favorable seasons have been experienced and good crops exist. But with all this discouragement to the planter, another factor of a very serious nature has appeared in the shape of cotton worms all over the southern part of State, reaching to the northernmost limit of the prairie belt (or cotton belt). Everywhere south of a line drawn from Columbus, Ga., diagonally across the State to Columbus, Miss., worms have appeared in quantities sufficient to alarm the planter. This crop of worms has now webbed up (such at least as were not killed by application of Paris Green or London Purple which have been extensively used), and what will be the results of their labors is now darkly

foreshadowed from past experience. Cotton is still ten days late and worms are at least one month earlier than usual, and hence the apprehension of our planters of an entire destruction of their crop can, in the opinion of many, only be removed by a wholesale co-operative poisoning. To this end large quantities of various forms of arsenic have been accumulated at every city, town, village, and hamlet in the cotton belt, and as soon as the next brood appears an attempt will be made to destroy them. I have already visited large fields where Paris Green was used over two weeks since, the worms having appeared early in July.

MISSISSIPPI.

Since my last report, July 2, the condition and prospects of growing corn and cotton crops have materially changed. The outlook for an abundant yield is not so promising now as at that time. Complaints of dry weather seriously injuring the corn crops, and affecting to a less extent the cotton crop, come from all parts of the State. In some places there has been too much rain; in many others there has been no rain for weeks.

The cotton worm has made its appearance in various parts of the State.

TENNESSEE.

The condition of corn is good. Comparison with last year this date, 92 per cent. The yield per acre will be about 10 per cent. less than in 1882, which was the most prolific for a great many years.

The year 1883 will probably stand for many years as more prolific in yield per acre of Irish potatoes than any other. The acreage was also much greater about the leading shipping points, while the quality has at no time been surpassed. The second crop has been planted, while a considerable portion of the first remains in the ground awaiting better market prices.

The average condition of tobacco is only 87 per cent. In some localities excessive rains have caused it to "french" somewhat. The planting was ten days or two weeks late, and it is too early to predict the final outcome.

KENTUCKY.

Wheat area 10 per cent. above average; condition not first class; much wheat damaged by rust from continuous wet weather; the berry very rarely plump and full; the product, notwithstanding increased area, will scarcely reach in *bushels* half of last year's crop. The last crop was estimated at 17,250,000 bushels. No one puts the present crop at over 9,000,000 bushels.

MICHIGAN.

Scarcely a correspondent speaks a good word for corn. The wet weather continued nearly through July, while on sandy soil, or high, well-drained ground, it may have got a start, in other localities the crop was almost drowned. It is now backward, uncultivated, and at the mercy of frosts.

The rains and high winds were disastrous to many wheat fields, and "lodged," "mildewed," "blighted," "rusted," and "shrunken," are very common complaints this year. In several of the southwestern counties a "blight" has been reported, which is variously accounted for. Some say that it is nothing but mildew, caused by excessive moisture; others, that it is caused by the heavy rains beating off the pollen, while another "finds the cause a black worm about an inch in length, on the inside stalk. The worm was generally near the first joint from the head, but one was found near the second joint." But Prof. W. J. Beal, of the Michigan Agricultural College, writes me: "I sent heads of wheat to Mr. Farlow, of Howard University, the most eminent cryptogamist in the United States. He and I *think* that a fungus *causes* the heads

to blight, but are not sure of it. Fungi exist on all blighted heads, but it is barely possible that these only accompany the blight. The fungus is *Fusarium graminum*, var. *Tritici, g.* Kuehn." The full extent of the injury cannot now be estimated.

Potatoes on low, wet ground shared much the same fate as corn, and were not properly cultivated; but in favorable localities they are all likely to make a bountiful yield. I think we cannot reasonably complain of this crop.

The condition of apples has been steadily growing worse. The crop is light, poor, and dropping off. Half a crop is a liberal estimate. Peaches are in much the same condition. Grapes, on the contrary, will, from present appearances, yield a fair crop. Complaints of injury by frosts and insects come from Berrien and Van Buren Counties, and of blasting from Allegan.

WISCONSIN.

Reports from all the counties in the State show that corn is coming forward very rapidly, with a very encouraging stand. In all of the southern or corn-raising counties the stand is thought to be nearly as good as at the same date last year. There is, however, a marked decrease in the acreage, which will have considerable effect in amount produced. Until the rains of last week the show for wheat was very good; the rains, however, have damaged the crop in all the eastern, southern, and southwestern counties; estimates place the damage at fully 25 per cent. Oats are badly damaged by the recent rains; in many sections a large portion of the crop is badly lodged, and in some instances rotting in the straw; there is, however, a heavy growth, and we estimate a fair yield. A splendid stand of barley all over the State, but badly colored by the wet weather.

The tobacco plants are coming forward in good shape, and the weather has been quite favorable. In a few counties there is some complaint of a backward condition, but in the three principal tobacco counties—Rock, Dane, and Jefferson—the stand is fine.

MINNESOTA.

Notwithstanding the unpropitious weather early in the spring, and subsequent drought in the northern counties, the small-grain crops of this State are generally good, and the yield of wheat will be above the usual average, which is put at 13.5 per acre. Rye has not done so well, nor oats. The yield of barley is average, but the grain was somewhat discolored by rains. Corn is still behind, but is coming on rapidly, and may yet gain several points.

The conditions given are, as compared with good average crops, say 13.5 bushels per acre for wheat, 33 bushels for corn, 25 bushels for barley, 16 bushels for rye, and 40 bushels for oats.

A storm which occurred two weeks ago did considerable damage in limited localities, and chinch-bugs have also damaged the wheat to some extent in the southeastern counties. Wheat harvest commenced about the first of this month in the southern counties. The weather is cool and unusually rainy for the season.

IOWA.

Since our July report the weather has been very favorable, and has wonderfully developed the growth of corn and other crops in Iowa. A very large proportion of the small grain is harvested and in good shape, and should we have a favorable fall the Iowa farmers will have a bountiful crop of all kinds except fruits. Corn is doing splendid. Potatoes extra. In some parts of the State the crops will be more than an average crop.

KANSAS.

With the exception of that in the extreme western counties, in which lie about 10 per cent. of the area, corn has improved during the past two weeks, until the crop

promises an average yield at this time. During the fore part of the month of July a hot wind, lasting several days, passed over the western portion of the State, and very nearly destroyed the corn; but during its continuance a timely rain came and redeemed a portion of the crop. The large corn-producing counties have had abundance of rain, and the crop promises now much better than an average. Taking the State as a whole the crop is within 1 per cent. of a full average.

The spring-wheat area fell off about 40 per cent. from that sown last year. The crop, which is about all harvested, has averaged a better yield than ever before in this State. The weather has been exceedingly propitious for its growth, and in addition the crop has been remarkably free from insect pests, the chinch-bug, its principal enemy in Kansas, doing but little damage. The spring-wheat area will still further decrease in Kansas, our climate not being adapted to its culture.

Oats, now about all harvested, have made a better yield than ever before in the history of the State, by at least 10 per cent. The area increased 30 per cent. over last year, making an acreage of about 680,000. The yield in bushels will be slightly in excess of that of the entire wheat crop.

DAKOTA.

The month of July started in with excessively warm weather; so much so that farmers entertained the gravest fears for their growing wheat. In South Dakota the excessive moisture of the previous month had the effect of tempering the light wind that blew almost constantly, which really made it more refreshing in the breeze, unprotected from the sun, than in-doors cut off from air. The thermometer ranged above 100° in the shade for several days. In northern and north central Dakota the heat was even greater, at Jamestown registering 107° in the shade. In addition, the ground had become dry, and considerable damage was caused to the growing grain, and at one time it was supposed that the crops would be almost a failure; but rains came about the 10th of the month, with cool weather, which caused a marked improvement in the prospects, especially in ground well farmed. But three counties reported crops suffering for want of rain on the 28th of July, to-wit, Day, Spink, and Brown. During the month of July hail-storms visited a number of localities throughout the Territory, but were generally confined to narrow limits, and though destructive to the crops of a few farmers, the general average will not be materially changed thereby. The blight is the dreaded enemy of spring wheat in this locality, yet but slight injury has occurred from this cause this year. No damage to crops from insects has been reported.

The wheat harvest in South Dakota is in full blast; the straw is bright and the heads large, and the crop is even better than the good crop of last year; the berry is plump and full, and indications are that it will largely grade No. 1.

In North Dakota the harvest has not yet commenced. Cass County has the largest area in wheat of any county in the Territory, and reports a prospect of the best yield for two years past. Richland County, the second in acreage, reports good prospects for a better yield than last year. The other counties of large area in North Dakota will fall below the crop of last year.

The wheat crop is the bone and sinew of trade in North Dakota, and the farmers and business men generally have experienced a great relief in having escaped the perils of the threatening aspect of the drought in the early part of July.

The promise on the 1st day of August is for a yield of about 17 bushels per acre for the whole Territory, which, with the increased acreage, will give a yield of a little over 17,000,000 bushels in the Territory. The average condition is 96. Corn, having been treated to a month of exceptionally favorable weather in the corn belt, has made marked improvement in its condition.

The very warm weather in the early part of the month, the moist condition of the ground, and the frequent rains during the month in that section where corn is largely raised has contributed in raising the average condition to 87.

Bon Homme makes the best report of condition of the corn counties. The stand on account of poor seed, cold, wet weather, and gophers is not good, but condition is in advance of same time last year.

Oats crop has made fine progress during the month in South Dakota. It will make a full average crop. It is being harvested now. It is not so good in Northern Dakota. Barley is a fair yield. Buckwheat is very little raised. Potatoes have improved during the month, and will average 100. Pastures are very good, green, growing, and fresh. Hay is somewhat backward, but will yield a good crop. Flax is very good, and will be much better than last year.

The Territory is yet too new to make any report on apples. The young orchards are doing well, and are bearing, showing that it is only a question of time when Dakota will raise enough apples for her own use, at least.

Rainfall for June, 4.55 inches in ten rains; for July, 6.72 inches in twelve rains.

Table showing the acreage and condition of the crops, &c., August 1, 1883.

States and Territories.	Corn.—Average condition August 1.	Spring Wheat.—Average condition August 1.	Spring Rye.—Average condition August 1.	Oats.—Average condition August 1.	Barley.—Average condition August 1.	Buckwheat. Acreage compared with last year.	Buckwheat. Average condition August 1.	Potatoes (Solanum tuberosum).—Average condition August 1.	Potatoes (Batatas edulis), sweet.—Average condition August 1.	Tobacco.—Average condition August 1st.	Hay. Average condition of timothy August 1.	Hay. Product of clover compared with last year.	Hay. Average quality of clover hay compared with last year.	Pasture.—Average condition August 1.	Cotton.—Average condition August 1.	Sorghum.—Average condition August 1.	Sugar-cane (not sorghum).—Average condition August 1.	Apples.—Average condition August 1.	Peaches.—Average condition August 1.	Grapes.—Average condition August 1.
Maine	104	102	103	108	101	95	99	105	.....	.....	110	112	97	109	.....	.....	.....	55	.....	75
New Hampshire	105	105	100	105	100	97	103	108	.....	100	104	101	100	103	.....	.....	.....	71	.....	103
Vermont	100	100	104	101	101	103	100	104	.....	100	104	112	100	106	.....	.....	.....	65	.....	80
Massachusetts	101	100	100	96	100	98	101	106	.....	103	98	109	98	100	.....	.....	.....	70	.....	103
Rhode Island	105	100	98	108	101	100	99	109	.....	90	100	96	95	101	.....	100	.....	72	75	105
Connecticut	95	.....	.....	105	100	.....	99	93	.....	87	100	99	100	96	.....	.....	.....	50	85	100
New York	90	99	.....	103	102	.....	99	103	97	100	97	105	95	105	.....	.....	.....	48	75	90
New Jersey	103	.....	.....	105	.....	.....	101	100	90	.....	96	115	100	95	.....	.....	.....	60	90	92
Pennsylvania	99	96	94	105	97	101	100	110	90	96	103	110	95	108	.....	95	.....	59	75	85
Delaware	98	.....	.....	97	.....	100	94	105	102	.....	100	105	100	103	.....	100	.....	70	72	95
Maryland	102	.....	.....	97	100	101	101	107	103	102	99	107	100	105	.....	85	.....	70	75	90
Virginia	93	.....	.....	86	.....	95	87	95	96	74	95	105	100	95	.....	92	.....	80	87	92
North Carolina	83	.....	.....	81	100	83	82	84	90	70	85	95	97	90	87	83	90	70	56	85
South Carolina	70	.....	.....	.....	.....	.....	.....	89	89	.....	.....	.....	.....	76	80	91	84	47	32	80
Georgia	74	.....	.....	85	.....	.....	.....	85	80	77	93	99	98	76	78	79	82	65	52	85
Florida	96	.....	.....	95	.....	.....	.....	91	99	94	.....	.....	.....	99	93	100	99	90	60	95
Alabama	80	.....	.....	89	.....	.....	.....	96	87	91	83	100	100	90	83	86	91	70	59	80
Mississippi	87	.....	.....	96	.....	.....	.....	98	94	91	90	100	101	92	85	92	90	77	65	93
Louisiana	100	.....	.....	87	.....	.....	.....	87	97	95	106	105	100	99	85	90	96	66	65	75
Texas	93	.....	.....	95	.....	.....	.....	92	75	.....	.....	.....	.....	94	89	90	88	58	52	90
Arkansas	87	.....	.....	101	.....	.....	.....	101	90	94	95	106	99	94	89	88	86	52	40	80
Tennessee	89	.....	.....	97	100	94	80	102	93	89	100	97	102	93	90	93	.....	57	58	80
West Virginia	99	99	100	97	.....	98	100	106	95	98	108	106	100	107	.....	99	.....	73	90	92
Kentucky	97	.....	97	100	91	.....	100	106	97	93	103	104	103	103	.....	95	.....	55	75	80
Ohio	89	.....	.....	106	80	98	100	112	95	93	107	98	100	108	.....	87	.....	27	35	70
Michigan	68	.....	.....	101	96	99	90	92	.....	.....	101	110	90	108	.....	90	.....	50	58	70
Indiana	95	.....	95	103	80	102	100	110	100	90	102	100	95	105	.....	90	.....	45	42	65

Illinois	86	.....	.....	102	94	97	96	103	96	85	104	102	95	104	.....	93	.....	55	76	60
Wisconsin	85	90	98	95	89	99	97	90	100	90	98	110	90	106	.....	86	.....	38	.....	70
Minnesota	87	98	98	98	96	101	98	96	.....	100	101	108	98	102	.....	83	.....	76	.....	90
Iowa	85	98	90	103	99	102	96	104	97	90	105	107	96	107	.....	85	.....	53	40	57
Missouri	83	.....	.....	101	87	101	101	99	97	84	101	105	100	108	77	90	.....	60	72	68
Kansas	99	.....	.....	110	96	102	104	100	99	.....	104	112	101	103	.....	94	.....	80	60	95
Nebraska	84	104	100	103	102	99	100	98	97	.....	104	140	99	104	.....	90	.....	75	46	70
California	91	.....	95	99	88	.....	.....	85	87	.....	102	104	102	91	.....	100	.....	60	67	95
Oregon	80	71	81	70	87	90	70	75	.....	.....	75	100	100	75	....	.....	.....	40	67	85
Nevada	100	97	100	99	99	101	100	102	.....	.....	100	103	100	103	.....	.....	.....	.....	.....	.....
Colorado	101	105	100	107	103	115	100	107	.....	....	110	105	105	98	.....	100	.....	.....	....	.....
Arizona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dakota	87	97	102	101	93	130	99	97	95	100	102	110	100	102	.....	88	.....	.....	.....	.....
Idaho	98	90	.....	95	95	.....	.....	99	.....	.....	....	110	100	100	.....	.....	.....	.....	.....	.....
Montana	92	100	.....	100	102	.....	.....	103	.....	.....	100	110	.....	106	.....	.....	.....	.....	.....	.....
New Mexico	93	90	90	98	90	.....	.....	92	.....	.....	90	102	97	80	.....	90	.....	65	70	75
Utah	96	98	.....	104	105	.....	.....	101	.....	.....	103	100	101	96	.....	94	.....	70	45	52
Washington	90	60	.....	67	75	.....	.....	70	.....	.....	100	98	100	80	.....	.....	.....	.....	.....	.....
Wyoming	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Indian	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
District of Columbia	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

EUROPEAN SUMMARY.

By E. J. Moffat, *Statistical Agent.*

The present condition of the wheat crop indicates a general falling off from the yield of last year of 20 per cent. The French, Italian, and Austrian threshings of the new wheat prove conclusively that the previous fair weather prospects have not been borne out in the resultant yield, and that further disappointments are in store for countries which have not yet advanced to the harvesting period. For nearly three weeks England and Western Europe have suffered from unseasonable weather, which has further jeopardized the prospects. Other cereals, except rye, promise well. The French and Austrian tobacco crops are slightly damaged. Hops, hitherto so excellent, have succumbed somewhat to the unfavorable weather. The olive crop in Spain and Italy will be poor, the potato yield will be superior everywhere on a larger acreage. Orchards and vineyards promise a better result than for years.

GREAT BRITAIN.

English wheat prospects are in a transition stage, dependent upon a speedy change of the weather for the better. My cablegram of July 10 was sent when the prospects were brightest and the most confident assurance was coming from all parts of the country that all was well. The high temperature and the frequent showers were rapidly maturing cereals, and what English farmers call "an old-fashioned summer" appeared to have set in. About the 12th the tropical heat disappeared in the south, having left the north a day or two before, and the temperature since has not varied much from that of last January. The nights have been uniformly cold, and raging storms have laid and twisted the growing crops. The weather report for the week ending on the 25th says that there has been a marked absence of sunshine, the total number of hours recorded for the whole period only amounting to 24. Just at the time when heat and dryness could be least dispensed with, we have had the opposite extreme for nearly three weeks. As a result the wheat has been more than merely checked in its growth, and however favorable the weather may hereafter be, this July period will have left its mark in a lessened yield, and, as in France, 25 per cent. less than last year is the present probability. The best that can be had is a small under-average on a reduced acreage.

Yesterday fine weather returned to Ireland, and after a chilly night to-day (26th) opens clear and warm, the weather bureau promising improvement on the eastern coast by evening. Speculations on English weather are most unprofitable, but the weather itself serves as a good index of the state of affairs in France, Holland, Belgium, Germany, and Denmark, as this year there has been a remarkable correspondence between the English weather and that existing in these continental countries.

FRANCE.

About half of the French wheat crop has now been cut, and harvesting operations are passing rapidly from the center to the north. A full idea of the result cannot be obtained until the verdicts of the north, northeastern, and northwestern departments are given. Enough information, however, is at hand to justify the opinion that the yield per hectare will fall fully 25 per cent. short of last, and if the results obtained in the south and center furnish any criterion to estimate the remainder of France, the total crop will not far exceed 90 millions as against 122 millions hectoliters last year. The cuttings show that the quantity of yield as compared with the expectations and prospects was decidedly deceptive, but it is a source of satisfaction to know that the quality is good and acts as a partial compensation for the disappointment in the bulk gathered. The unfavorable cold rainy weather since the 12th is causing great

alarm, and its continuance cannot fail to work serious injury. As yet the weather gives no sign of improvement, and the next ten days will decide whether the last hope of the French wheat harvest—its quality—will be realized or not. The unsatisfactory yield in such southern departments as Gers, Aveyron, Vaucluse and others, which last year gave abundant harvests, is significant as being the first intimation we have had of the real effect of the unfavorable sewing season of last winter and autumn and forebodes light wheat crops in other countries than France, which suffered from the same climatic conditions. Good crops of oats and barley are expected, and rye, hitherto so bad, is doing much better. In common with all Europe, potatoes will be a fine crop.

GERMANY.

From present indications, taking Germany as a whole, the result this year will be moderate, less than last year and less than the average, the northeastern provinces faring best; Pomerania, Brandenburg, Schleswig-Holstein, and Westphalia leaving much to be desired, the long continuous drought having injured the crops. The vine, fruit, beetroot, and potatoes are everywhere excellent. Western Prussia is notably short. The official report of the important province of Silesia makes wheat 80, rye 81, barley 92, oats 91, potatoes 90, hay 76. Commenting on these figures, the Consul at Breslau says: "At this time last year the cereal crops and potatoes gave promise of a better harvest than the farmers had had for many years, but a cold, wet season of some weeks duration ensued and the promise came to naught. Should fair weather fail this season, 1883 can be added to the list of disastrous harvests, the rape seed being already regarded as a third below the average and the cloud-bursts, inundations, and hail-storms of June and the first half of July have caused widespread destruction. From personal observation and experience of several years here, I should say the result, even with the most favorable weather, would reduce the above figures 5 to 10 per cent. No damage is reported by insects, but wheat, in certain parts, has suffered from rust. Sugar-beets are a promising crop." Speaking of the Rhenish provinces, the Consul at Aix-la-Chapelle says: "The prospects for cereals are fair and indicate a moderately successful year. Rye stands thick and strong, especially the Johonnies variety. Wheat, good in some sections. Oats, good. Potato and hop acreage larger than for years, and promising well." The Consul at Barmen reporting Westphalia says rye will yield about 70 per cent., wheat 80 to 90, barley above the average in quality and quantity, oats 60 to 70, potatoes and beetroot a plentiful harvest. The Consul at Nuremberg, Bavaria, says hop prospects in all parts of Bavaria are exceedingly good, but if the rain and cold of the last week (20th) are continued much damage will be done.

ITALY.

The effect of a good or bad harvest in Italy can only affect the American trade in an indirect way, as deficiencies are made up by imports mostly from Russia. The average acreage is about 10,000,000, and average production 120,000,000 bushels. The harvest this year will be about the average and falling short of last year. The Consul at Milan states that Lombardy will have a fairly good yield. The Deputy Consul at Florence reports 22 communes in Tuscany and Sardinia deficient, 376 middling, 146 sufficient, and 104 abundant in wheat. Maize, 17 deficient, 260 middling, 107 sufficient, and 25 abundant. Rye (Tuscany), 24 deficient; 80 middling; 63 sufficient; 38 abundant. Barley, 19 deficient; 322 middling; 146 sufficient; 44 abundant. Oats (Tuscany), 30 deficient; 81 middling; 75 sufficient; 52 abundant. The Vice-Consul at Turin, reporting Piedmont on the north, says the yield is much inferior to last year and the quality worse, owing to excessive rain; oats and maize doing well; rice much damaged by windstorms. The Consul at Naples (South) reports wheat middling; maize excellent; the vine promising well; olive oil, about a third of average yield; oranges and lemons, a small crop. Speaking of Tuscany and its

harvested wheat crop, the Consul at Leghorn says the yield is about two-thirds of an average, but the quality is good; maize, doubtful; within the last few days damage has been done in the north by severe wind and rain storm, while the south has been visited by intense heat. The official bulletin of the ministry of agriculture, published on the 10th instant, says wheat harvested in Piedmont is not abundant; vine and maize very promising. Lombardy, wheat more satisfactory. Venetia, quite abundant. Emilia (the heaviest wheat-growing province), fairly satisfactory, but inferior to last year; Marches and Umbria, the same; Tuscany, satisfactory: Rome, poor.

AUSTRO-HUNGARY.

Both from official and unofficial reports it appears, as the result of the harvesting in the Austrian Empire, that the prospects have been misleading, and that the final outcome of the thrashing will fail to bring wheat up to last year's abundant yield as has been almost unanimously asserted hitherto. Then the general result was placed at 115; and this year, in a carefully written estimate, Mr. John Treyer, of the Weiner Loyd, puts the figures at 104. The official report for the middle of July amply sustains the fact that this estimate is not too high, and without giving what would be more satisfactory, a numerical opinion, states that there appears to be "an average middling crop." Many tests have been made of the weight per bushel and it is found invariably to fall short of last year, the berry having been shriveled up by the heat. In the northern zone of Austria less than an average is expected. Bohemia appears to have been the only sufferer from rust, which was far less prevalent this year than usual. Rye, barley, and oats will not make more than an average crop. Potatoes, fruit, and the vine, superior. Roumania, like Austria and Hungary, is dissatisfied, mildew having injured the wheat, but maize stands well. Altogether the high hopes of an abundant harvest in these unimportant wheat countries have been disappointed.

RUSSIA.

Without entering into details, the reports of the 7th, 14th, and 21st of July from Odessa give continued assurance that the wheat crop bids fair to equal that of last year, which was a heavy one, but the falsification of similar brilliant prospects in Austro-Hungary and elsewhere will require, in the present instance, Russia's assurance to be doubly sure before it can be received as a fact. Along the shores of the Dnieper less wheat than usual has been sown. Unlike most countries, the spring wheat, ghirka, is three times as important a crop as the winter wheat, and it may be added that the great bulk of the spring wheat is grown in the southern governments from which the reports have been most favorable. Nothing more is heard of the destruction by locusts, except that the local officials by their energetic action in burning fields have stopped the spread of the devastation that was threatened.

BELGIUM AND HOLLAND.

The last reliable prospects of the Belgian crops, published in *Le Moniteur* of the 10th instant, give returns from all the provinces and make all cereals "good," except rye, potatoes, "very good," and flax, "fair." Later accounts from the Duchy of Luxembourg make great complaint of the wheat yield, and, as in France, pronounced the appearance of the wheat before cutting as very deceptive. Belgium and Holland, since the official report, have had unfavorable weather. The consul at Antwerp (13th) says the prospect is encouraging, although cereals have suffered somewhat from drought. Potatoes and fruit, excellent. Consul at Amsterdam: Prospect favorable for a fair crop of wheat and rye.

SPAIN.

The consul at Barcelona states that in Catalonia and on the Balearic Islands wheat and rye are about an average. Wine (the principal product), good in quantity and quality. Olive crop, almost a total failure.

SWITZERLAND AND DENMARK.

The reports from Berne and Lausanne state prospects fair, with complaints of lower temperature and excessive rain menacing the final result. The situation in Denmark is the same. The return of fair weather will make an average crop.

AMERICAN COMPETITION WITH EUROPEAN AGRICULTURE.

The diminished production of European agriculture during the past ten years, and an increase of population in the same period, have caused enlarged demands upon the surplus bread and meat products of other continents. The reduction of the home supply has resulted from unfavorable seasons rather than any extensive loss of area in cultivation. In Great Britain the discouragement of continued failure has somewhat circumscribed the wheat area. These losses have fallen mainly on the agriculture of Western Europe.

While bad seasons were followed by worse in Europe, a series of exceptionally productive years was enjoyed in this country. A surplus of food products, always large, therefore became still larger, and a prominent share in the required supply was furnished by the United States. At the same time our railway transportation rates were wisely reduced to render possible this increased movement. The result was an unusual foreign export of wheat, corn, and meats, sold at lower rates than European farmers could afford to accept, when their operations became unprofitable, profits were absorbed, capital wasted, and in many cases bankruptcy followed. Rents declined and leases were given up.

For years the pressure of this hardship has borne heavily upon European agriculture; discontent has increased and remedies have been sought in a change of cropping, scientific and mechanical aids to production, in government assistance and protection. But improvement has been slow in coming. Almost the first crumb of comfort to the foreign farmer was the disaster to American crops in 1881. This revived the hope that the ability of the United States to produce an unlimited surplus was overstated.

A royal commission was appointed in Great Britain in 1879 to consider the question of agricultural distress, which has continued its work from year to year, and sent commissions to this country, whose reports have been at intervals made public. There has been much talk of this distress and its causes, a little unwilling reduction of rents, and a waiting for hoped-for amelioration from natural causes and the swing of events.

The foreign farmer is still anxious to know whether the United States can continue, with a rapid increase in population to be fed, this cheap supply of the food requirements of Europe. This immigration adds to the number of our farmers, and so tends to increase the supply; yet the proportion of farmers to those in other occupations is gradually

becoming less, and will continue to decrease unless causes tending to break down other industries should intervene and crowd the ranks of agricultural laborers. The proportion of agriculturists among the occupations was 47.35 per cent. in 1870 and 44.10 in 1880. When it shall be still less, agriculture will be more remunerative than at present. In those States in which the proportion of farmers is least their annual income is highest, and *vice versa*.

The intelligent American farmer understands that the domestic demand is immeasurably of more importance to him than the foreign. Even during this era of heavy exportation of the raw products of agriculture, the home consumption of cereals has been 90 per cent. of the entire production. Meats, more concentrated products, will better bear exportation, and may be shipped abroad when grain shipments may be unprofitable. The extension of wheat-fields westward will enable producers to export wheat for many years to come, if prices should be high enough to afford a profit, but in the form of flour, to retain the milling profit, rather than as crude grain. Cheese will continue to be sent abroad largely, and butter might be if a larger proportion of "gilt-edged" should be produced and means provided for keeping it in perfect condition.

The constant improvement in implements, and the gradual advance in progressive methods in the older States, tends to increase the rate of yield of wheat, while the extension of the culture in the new lands leads towards reduction. It is a mistake to suppose that the larger part of our wheat is grown beyond the Mississippi, or that the heaviest yields are in the new lands, or that spring wheat will ever exceed in quantity the winter wheat of the United States. Spring wheat takes the lead in pioneer farming, and declines inevitably as systematic farming comes in, at least in all localities in which soil and climate favor fall or winter sowing.

In short, the farmers of the United States are not anxious to gain or to perpetuate the reputation of furnishing breadstuffs cheaper than any other civilized nation, though doubtless they can do it if they try.

German and French farmers, as well as British, have been for some years feeling the pressure of this competition. The city and country press of those countries has teemed with discussions of the situation, and writers on national and political economy have treated the subject at length in pamphlets and serials. A collection of this matter has been made. It has been examined with some care, and salient points in it have been sought, and translations made by the Department. A digest of this matter, as brief as it could well be made, with extracts, is presented in the following pages. There will be found much food for thought by the intelligent American farmer in the article, though it is necessarily fragmentary and incomplete, as a treatment of the great questions of rural and national economy involved in the subject of American competition with European agriculture.

To show the progress made in exportation of products of agriculture in a half century or more, the following figures from the records of the Bureau of Statistics are given:

Year ended June 30—	Value of exports of domestic merchandise.	Value of exports of products of domestic agriculture.	Per cent. of products of agriculture.
	Dollars.	*Dollars.*	
1820*	51, 683, 640	41, 657, 673	80. 60
1830*	58, 524, 878	48, 095, 184	82. 18
1840*	111, 660, 561	92, 548, 067	82. 93
1850	134, 900, 233	108, 605, 713	80. 51
1860	316, 242, 423	256, 560, 972	81. 14
1870	455, 208. 341	361, 188, 483	79. 34
1880	823, 946, 353	683, 010, 976	82. 90
1881	883, 925, 947	729, 650, 016	82. 55
1882	733, 239, 732	552, 219, 819	75. 31

* Year ended September 30.

The increase in number of farms, in improved (or tillable) acres, and in the total area of land in farms is thus shown from the records of the national census:

Years.	Number of farms.	Improved.	Total.
		Acres.	*Acres.*
1850	1, 449, 073	113, 032, 614	293, 560, 614
1860	2, 044, 077	163, 110, 720	407, 212, 538
1870	2, 659, 985	188, 921, 699	407, 735, 041
1880	4, 008, 907	284, 771, 042	536, 081, 835

The product of corn is nearly three times as much as in 1849, while the wheat aggregate is more than four times as large. The progress in grain-growing has entirely outstripped the advance in population. It is shown from the census exhibits as follows, though it should be remembered that the corn crop in 1869 was a comparative failure, 25 per cent. less than the acreage would have yielded in a good year:

Years.	Corn.	Wheat.
	Bushels.	*Bushels.*
1849	592, 071, 104	100, 485, 944
1859	838, 792, 742	173, 104, 924
1869	760, 944, 549	287, 745, 626
1879	1, 754, 591, 676	459, 483, 137

The nations most affected by competitive exportation from the United States are Great Britain, France, and Germany. To show the principal American exports to those nations, the following tables have been prepared from Reports of Commerce and Navigation, excluding the minor articles, which might extend the list without enlarging much the volume of quantity or value.

In the past ten years the exports to France have averaged $58,457,124, a trifle more than the imports. The exports to Germany have averaged $57,713,236; the imports $44,526,702. Great Britain and Ireland (the "United Kingdom") have been the best customers, buying annually to the value of $374,088,360, and sending in return to the United States goods worth $160,627,212, showing a difference of over $213,000,000 per annum.

An examination of the details of this trade will illustrate the bearing of competition upon the agriculture of these countries:

Years.	Value of all exports.			Value of all imports.		
	Great Britain and Ireland.	France.	Germany.	Great Britain and Ireland.	France.	Germany.
1873	$316, 861, 874	$33, 781, 506	$61, 590, 047	$237, 298, 218	$33, 977, 200	$61, 401, 756
1874	345, 359, 584	42, 964, 311	62, 993, 225	180, 042, 813	51, 691, 896	43, 909, 852
1875	317, 111, 142	33, 632, 727	50, 466, 025	155, 297, 944	59, 773, 148	40, 247, 712
1876	336, 052, 050	39, 792, 702	50, 629, 072	123, 373, 281	50, 959, 577	35, 319, 462
1877	345, 961, 055	45, 139, 918	58, 107, 433	113, 734, 258	47, 556, 292	32, 509, 365
1878	387, 430, 730	55, 319, 138	54, 809, 845	107, 290, 677	43, 378, 870	34, 790, 103
1879	348, 828, 439	89, 669, 627	57, 057, 245	108, 538, 812	50, 684, 601	35, 519, 818
1880	453, 796, 497	100, 063, 044	57, 062, 263	210, 613, 694	69, 344, 412	52, 211, 237
1881	481, 135, 078	94, 197, 451	70, 188, 252	174, 493, 738	69, 806, 375	52, 989, 181
1882	408, 347, 155	50, 010, 818	54, 228, 953	195, 588, 692	88, 897, 606	56, 368, 542
Total ...	3, 740, 883, 604	584, 571, 242	577, 132, 360	1, 606, 272, 127	566, 069, 977	445, 267, 028

Exports of farm and forest products, agricultural implements, &c., for the years ending June 30, 1879, 1880, 1881, and 1882.

TO GREAT BRITAIN.

Articles.	1879.		1880.		1881.		1882.	
	Quantities.	Values.	Quantities.	Values.	Quantities.	Values.	Quantities.	Values.
Agricultural implements:								
Mowers and reapers ..... number..	3,561	$294,946	2,403	$247,474	2,899	$274,800	2,985	$264,740
Plows and cultivators .....do....	19	174	35	475	97	1,325	438	3,549
All other agricultural implements	.....	316,130	.....	252,241	.....	405,470	.....	280,725
Animals, living:								
Hogs.....number..	25,033	239,484	10,399	95,151	15,090	144,230	995	9,820
Horned cattle.....do....	71,794	6,616,114	125,517	11,830,292	134,061	12,973,033	68,008	6,960,600
Horses.....do....	1,683	410,420	788	340,732	583	179,675	353	151,071
Mules .....do....	105	10,750	359	27,400	22	2,750	.....	.....
Sheep.....do....	108,652	887,701	80,501	702,829	60,608	595,638	46,228	435,186
All others, and fowls	.....	3,327	.....	810	.....	1,340	.....	2,508
Bark for tanning.....	.....	63,304	.....	118,080	.....	63,857	.....	47,368
Beer, ale, and porter in casks.....gallons..	6,258	1,300	414	127	67,278	10,040	383	140
Bones and bone dust .....cwts..	17,659	35,804	6,432	14,964	6,951	23,644	7,930	16,738
Bread and breadstuffs:								
Barley.....bushels..	176,132	107,416	547,054	427,336	753,941	488,536	100,084	74,950
Bread and biscuit.....pounds..	6,599	429	3,865	246	1,773	199	8,063	784
Indian corn .....bushels..	40,278,394	19,490,631	30,064,440	16,785,942	33,513,021	19,185,963	21,754,661	15,009,424
Indian corn meal .....barrels..	4,808	13,523	10,765	30,713	8,879	26,551	1,070	3,926
Oats.....bushels..	123,516	44,011	44,222	16,683	1,660	680	8,987	3,988
Rye .....do....	69,674	44,979	173,740	125,005	55,707	55,232	26,237	27,548
Wheat.....do....	32,083,890	33,950,645	40,824,147	51,229,545	48,729,040	55,387,445	32,224,367	40,875,987
Wheat flour .....barrels..	2,566,533	13,621,105	3,540,124	20,485,105	4,456,138	25,793,123	3,204,623	19,421,421
Other small grain and pulse.....	.....	218,786	.....	398,679	.....	158,701	.....	136,832
Farina and other preparations of breadstuffs.....	.....	1,411,184	.....	2,090,587	.....	1,053,967	.....	285,447
Cotton, and manufactures of:								
Sea island .....pounds..	3,229,837	882,154	4,014,826	1,321,693	5,860,649	1,743,620	4,126,927	1,174,023
Other unmanfactured .....bales..	963,088,196	96,101,172	1,189,017,239	136,893,824	1,344,044,143	151,630,810	1,156,834,667	132,502,345
Colored .....yards..	8,851,512	701,073	6,091,998	471,914	3,093,864	262,842	2,574,266	204,232
Uncolored .....do....	22,567,249	1,683,992	32,896,360	2,712,646	23,595,621	1,888,924	18,441,887	1,587,826
All other manufactures of	.....	329,069	.....	336,378	.....	232,158	.....	240,299
Fruits:								
Apples, dried.....pounds .	275,829	13,274	818,780	53,261	1,635,828	128,753	473,901	49,454
Apples, green or ripe.....bushels..	1,061,301	797,153	1,031,942	1,101,623	2,866,077	2,145,965	417,517	460,162
Other fruit, green, ripe, or dried.....	.....	28,565	.....	60,559	.....	76,045	.....	55,159
Preserved in cans or otherwise.....	.....	154,286	.....	245,464	.....	241,746	.....	252,679
Ginseng .....pounds..	24,948	31,124	20,067	29,315	13,771	25,237	1,151	2,259
Glue.....do....	100,894	10,799	43,736	5,013	41,562	5,777	5,283	788

Exports of farm and forest products, agricultural implements, &c.—Continued.

TO GREAT BRITAIN—Continued.

Articles.	1879.		1880.		1881.		1882.	
	Quantities.	Values.	Quantities.	Values.	Quantities.	Values.	Quantities.	Values.
Hair:								
Unmanufactured		$207,450		$166,595		$206,158		$173,429
Manufactures of		6,922		11,365		20,274		17,882
Hay tons	1,024	16,961	4,816	78,506	3,605	72,346	3,480	68,399
Hops pounds	5,156,818	666,993	9,433,239	2,504,156	8,704,385	1,965,674	5,407,569	1,371,435
Leather, and manufactures of:								
Morocco and other fine		765,103		440,399		537,806		568,173
Sole, upper, and all other pounds	18,669,743	3,609,679	16,667,052	3,877,510	23,043,967	5,135,125	27,870,497	5,656,386
Boots and shoes pairs	1,936	2,644	1,134	1,723	2,237	811	4,720	5,852
Saddlery and harness		2,004		3,058		7,823		3,801
All other manufactures		108,597		91,272		124,655		190,405
Manures, substances used for		786,785		315,535		371,338		627,678
Naval stores:								
Rosin and turpentine gallons	386,830	810,888	437,686	1,127,586	423,269	1,120,584	423,295	1,241,327
Tar and pitch barrels	26,040	39,964	12,965	20,263	15,110	30,785	15,815	35,867
Oil cake pounds	277,876,700	3,645,221	385,352,898	5,418,906	374,572,221	5,306,411	337,650,148	5,184,239
Oils:								
Lard gallons	1,305,766	675,197	890,835	676,250	345,793	218,915	215,789	184,853
Neat's-foot and other animal do	118,682	113,156	24,406	18,478	56,456	42,690	19,793	15,009
Cotton-seed gallons	557,785	230,117	264,083	109,084	134,556	54,206	163,485	73,536
Linseed do	479	296	650	380	3,032	1,780	1,710	1,050
Volatile or essential do		155,145		97,856		19,690		82,831
Provisions:								
Bacon pounds					471,219,294	38,636,198	384,103,110	38,318,699
Hams do	516,704,581	38,529,183	554,198,333	37,687,069	57,547,415	5,847,815	30,936,585	3,516,799
Beef, fresh do	52,792,969	4,776,572	84,454,881	7,425,255	103,352,477	9,652,568	65,372,941	6,329,449
Beef, salted or cured do	21,987,162	1,428,873	29,563,101	1,891,438	27,011,777	1,785,558	33,627,843	2,963,767
Butter do	24,841,714	3,727,965	27,887,893	4,903,848	23,491,810	4,700,924	8,683,420	1,685,572
Cheese do	136,600,368	12,122,099	122,125,332	11,687,877	141,015,095	15,589,390	121,904,755	13,369,308
Condensed milk		24,915		38,633		48,669		90,681
Fish		1,847,026		1,503,349		1,715,357		2,191,804
Lard pounds	89,248,313	6,231,777	112,532,702	8,332,824	114,392,387	10,773,781	80,517,164	9,407,757
Meats, preserved		6,251,051		6,593,395		5,082,593		3,453,231
Mutton, fresh pounds	1,374,913	117,780	2,332,824	176,058	3,363,075	257,087	1,348,196	128,960
Oysters		306,941		366,403		414,584		372,111
Pork pounds	30,764,739	2,030,969	36,987,976	2,542,897	49,012,533	3,812,657	29,025,694	2,469,131
Potatoes bushels	248	194	59,266	46,844	2,286	3,491	2,175	3,381
Other vegetables		3,072		3,797		639		42,472
Vegetables, prepared or preserved		61,734		84,905		90,718		128,373

Rice ..... pounds..	2,975	206	6,268	488	8,731	550	2,482	162
Seeds:								
Clover ..... pounds..	.....	.....	10,315,920	938,883	2,980,840	258,313	5,453,926	498,410
Cotton ..... do ..	16,285,938	139,988	10,913,854	120,891	11,176,997	142,507	10,697,442	102,508
Timothy, garden, and other	.....	688,953	.....	19,219	.....	97,866	.....	688,884
Spirits distilled from grain ..... gallons..	97,385	42,225	49,676	23,532	117,886	37,288	32,850	14,890
Spirits of turpentine ..... do	3,725,296	985,996	3,888,801	1,100,171	3,752,615	1,327,043	4,534,975	2,116,849
Starch ..... pounds..	2,972,137	133,823	1,991,976	97,900	1,373,481	70,725	1,082,400	62,733
Tallow ..... do	44,687,853	3,100,548	60,205,693	4,386,853	51,572,437	3,805,454	35,671,355	2,859,395
Tobacco, and manufactures of:								
Leaf ..... do	65,010,286	7,151,958	33,996,136	3,693,729	44,545,345	5,199,698	35,341,604	4,414,931
Cigars ..... M..	94	2,505	355	8,548	296	10,027	309	11,151

TO FRANCE.

Agricultural implements:								
Mowers and reapers ..... number..	4,090	$412,680	3,017	$335,710	1,261	$119,305	2,080	$187,930
All other agricultural implements ..... do	.....	220,102	.....	167,302	.....	182,644	.....	169,781
Animals, living:								
Horned cattle ..... number..	118	11,800	1,240	135,370	1,297	129,520	110	10,000
Horses ..... do	15	3,000	98	23,600	3	1,200	107	29,000
Sheep ..... do	950	9,500	675	5,450	650	6,500	.....	.....
Bark for tanning	.....	30,485	.....	56,501	.....	27,243	.....	16,822
Beer, ale, and porter, in casks ..... gals..	60	14	.....	.....	.....	.....	50	15
Bones and bonedust ..... cwt..	2,070	4,973	562	2,615	435	2,016	1,369	5,601
Bread and breadstuffs:								
Bread and biscuit ..... pounds..	.....	.....	.....	.....	2,280	176	35	7
Indian corn ..... bushels..	2,564,226	1,141,239	8,573,845	4,748,293	4,987,985	2,668,436	1,344,970	809,668
Indian corn meal ..... barrels..	30	98	.....	.....	125	475	367	1,438
Oats ..... bushels..	1,991,396	628,919	228,983	87,646	50,001	20,025	224,780	95,568
Rye ..... do	167,817	105,531	348,438	317,855	.....	.....	.....	.....
Wheat ..... do	42,147,558	46,691,216	43,601,291	55,268,075	29,440,418	34,213,213	11,225,848	13,773,236
Wheat flour ..... barrels..	27,075	129,703	9,933	64,009	46,396	290,341	4,579	25,789
Other small grain and pulse	.....	441	.....	15,512	.....	.....	.....	431
Farina and other preparations of breadstuffs used as food	.....	1,180	.....	4,243	.....	2,522	.....	9,568
Cotton, and manufactures of:								
Sea island ..... pounds..	800,391	225,918	1,014,226	348,814	1,277,702	417,587	726,510	224,228
Other, unmanufactured ..... do	196,187,714	18,848,459	178,832,051	20,519,874	275,649,104	30,599,209	166,044,167	18,323,929
Colored ..... yards..	.....	.....	2,500	199	1,000	160	15,000	1,025
Uncolored ..... do	20,000	900	222,023	20,087	54,912	10,536	41,760	4,829
All other manufactures of	.....	.....	.....	1,851	.....	5,804	.....	3,538
Fruits:								
Apples, dried ..... pounds..	.....	.....	189,534	8,838	6,428,818	302,337	557,007	30,862
Apples, green or ripe ..... bushels..	156	185	240	338	5,659	5,579	246	493
Other fruit, green, ripe, or dried	.....	6,417	.....	1,431	.....	33,489	.....	6,626
Preserved in cans or otherwise	.....	23,336	.....	8,058	.....	3,116	.....	2,080
Glue	.....	.....	150	18	.....	.....	620	119

Exports of farm and forest products, agricultural implements, &c.—Continued.

TO FRANCE—Continued.

Articles.	1879.		1880.		1881.		1882.	
	Quantities.	Values.	Quantities.	Values.	Quantities.	Values.	Quantities.	Values.
Hair:								
Unmanufactured		$34,824		$38,286		$31,318		$19,832
Manufactures of						1,037		6,059
Hay ..... tons			159	2,735	132	2,756	1	15
Hops ..... pounds			48,188	6,075				
Leather and manufactures of:								
Leather								
Morocco and other fine		1,033		300				387
Sole, upper, and all other ..... pounds	26,899	4,980	5,131	800	2,353	800	353	100
Manufactures of saddlery and harness		45		156		797		625
All other manufactures		599		2,606		510		322
Manures, substances used for		23,544		3,939		7,420		3,252
Naval stores:								
Rosin and turpentine ..... barrels	29,889	61,666	18,213	37,010	29,067	68,089	14,980	39,111
Tar and pitch ..... do			10	25	2,065	4,344	3,787	9,598
Oil cake ..... pounds	16,765	169	22,400	260	10,500	135	145,000	2,700
Oils:								
Lard ..... gallons	337,407	178,271	341,728	177,472	171,112	109,656	68,746	59,021
Neat's-foot and other animal ..... do	509	410	1,500	1,100				
Cotton-seed ..... do	1,259,878	538,251	1,430,231	656,848	359,584	154,813	59,106	29,619
Linseed ..... gallons	46	30			800	528		
Volatile or essential		14,661		13,507		11,228		13,419
Provisions:								
Bacon ..... pounds	53,593,720	3,248,214	66,357,041	3,848,930	64,730,438	4,517,994	4,776,689	381,375
Hams ..... do					3,375,449	337,938	573,622	64,344
Beef, salted or cured ..... do	561,331	39,368	1,011,175	59,946	359,440	22,754	434,730	34,439
Butter ..... do	61,815	9,749	446,693	65,611	311,427	61,920	28,041	5,616
Cheese ..... do	27,273	2,460	42,427	3,887	21,566	2,168	9,632	1,064
Fish		69,364		29,083		23,714		7,474
Lard ..... pounds	42,360,456	2,877,630	55,462,701	3,941,971	61,908,551	5,567,030	31,610,618	3,699,876
Meats, preserved		86,976		150,810		83,091		14,296
Oysters		236		3,302		2,878		1,113
Pork ..... pounds	2,168,614	140,658	1,608,545	104,329	1,896,969	131,741	257,574	22,956
Potatoes ..... bushels	241	243	467	460				
Other vegetables				45		29		
Vegetables, prepared or preserved		4,945		1,417		2,650		558
Rice ..... pounds	47,983	3,580	52,049	3,956	49,364	3,413	36,520	2,967
Seeds:								
Cotton ..... pounds			49,125	2,080	25	1	3,430	28
Clover ..... do		157,772	1,081,766	85,431	400,886	29,754	6,566,877	579,642
Timothy, garden, and all other ..... do				7,615		6,187		34,100

Spirits distilled from grain ..... gallons..	3,349,437	1,009,973	2,703,259	689,175	3,286,112	666,720	3,056,522	608,348
Spirits of turpentine ..... do....	77,650	19,962	2,300	644	361,268	141,657	.....	.....
Starch ..... pounds..	98,745	3,988	2,125	80	448	18	18,253	800
Tallow ..... do....	18,923,453	1,296,210	10,776,901	701,920	15,627,390	1,026,619	3,428,644	255,750
Tobacco, and manufactures of:								
Leaf ..... pounds..	44,784,776	2,572,908	26,921,601	1,646,021	37,038,725	2,627,728	31,736,787	2,294,291
Cigars ..... M..	.....	.....	1	50	4	200	19	804
Snuff ..... pounds..	.....	.....	.....	.....	.....	.....	20	4
All other manufactures of	.....	5,256	.....	6,079	.....	7,697	.....	9,203
Wax (bees) ..... pounds..	2,094	595	8,264	1,933	413	80	4,846	1,020
Wine ..... gallons..	171	227	450	792	396	860	260	355

TO GERMANY.

Agricultural implements:								
Mowers and reapers ..... number..	934	$86,184	849	$94,822	402	$38,228	991	$83,834
Plows and cultivators ..... do....	2	30	3	79	6	85	14	198
All other agricultural implements	.....	212,557	.....	206,208	.....	196,499	.....	148,438
Animals, living:								
Hogs ..... number..	.....	.....	973	17,510	1,834	28,425	11	435
Horned cattle ..... do....	1,330	116,860	.....	.....	207	16,800	6	700
Horses ..... do....	1	350	.....	.....	1	2,000	1	500
All others and fowls	.....	565	.....	100	.....	3,895	.....	3,070
Bark for tanning	.....	31,156	.....	26,362	.....	18,080	.....	13,167
Beer, ale, and porter in casks ..... galls..	225	70	120	35	298	83	1,153	310
Bones and bone dust ..... cwts..	982	1,340	1,039	1,024	468	500	.....	.....
Bread and breadstuffs:								
Barley ..... bushels..	550	600	460	368	.....	.....	.....	.....
Bread and biscuit ..... pounds..	600	59	7,000	490	23,658	1,186	3,083	455
Indian corn ..... bushels..	3,894,311	1,826,611	7,589,858	4,082,354	10,320,247	5,741,526	3,647,878	2,369,414
Indian corn-meal ..... barrels..	90	283	.....	.....	1,219	3,466	350	1,263
Oats ..... bushels..	298	96	.....	.....	.....	.....	170	109
Rye ..... do....	748,622	455,600	345,753	266,999	851,732	782,605	196,474	190,596
Wheat ..... do....	422,242	470,692	1,223,279	1,386,625	3,029,232	3,515,267	480,600	617,953
Wheat flour ..... barrels..	11,233	64,628	11,911	67,787	17,373	103,356	4,893	33,699
Other small grain and pulse	.....	2,960	.....	3,218	.....	17,549	.....	2,985
Farina, and other preparations of breadstuffs used as food.	.....	23,332	.....	20,719	.....	45,859	.....	28,225
Cotton, and manufactures of:								
Sea island ..... pounds..	.....	.....	32,582	13,393	.....	.....	155	45
Other unmanufactured ..... do....	137,484,413	13,110,159	153,989,982	17,708,261	233,095,704	25,616,850	162,480,950	18,404,760
Colored ..... yards..	43,497	3,470	175,516	16,763	146,160	9,691	558,708	34,627
Uncolored ..... do....	1,661,103	131,314	1,662,625	123,141	1,377,589	147,743	511,044	74,037
All other manufactures of	.....	56,879	.....	26,125	.....	11,377	.....	57,101
Fruits:								
Apples, dried ..... pounds..	3,289,096	125,048	1,282,631	78,618	8,174,002	469,650	361,505	32,229
Apples, green or ripe ..... bushels..	5,653	7,164	5,888	10,008	69,573	53,941	2,702	4,549
Other fruit, green, ripe, or dried	.....	3,162	.....	3,402	.....	22,284	.....	7,242
Preserved, in cans or otherwise	.....	31,367	.....	16,733	.....	25,376	.....	19,929

Exports of farm and forest products, agricultural implements, &c.—Continued.

TO GERMANY—Continued.

Articles.	1879.		1880.		1881.		1882.	
	Quantities.	Values.	Quantities.	Values.	Quantities.	Values.	Quantities.	Values.
Glue.....pounds..	71,200	$8,704	6,595	$989	13,220	$2,390	14,919	$2,946
Hair, unmanufactured		16,223		17,082		18,487		24,805
Hay.....tons..							66	1,201
Hops.....pounds..	3,523	457	7,469	2,350	4,057	1,075		
Leather, and manufactures of leather:								
Morocco, and other fine		28,639		15,572		21,236		10,813
Sole, upper, and all other.....pounds..	7,536,200	1,630,721	3,970,742	914,791	3,659,991	820,925	2,561,447	545,481
Manufactures of boots and shoes.....pairs..	1,907	1,972	1,103	1,465	44	65	96	75
Saddlery and harness		962		1,060		1,111		732
All other manufactures		114,957		98,557		64,814		75,192
Manures, substances used for		132,430		164,343		36,909		98,235
Naval stores:								
Rosin and turpentine.....barrels..	213,239	350,629	197,795	366,583	165,326	359,170	255,627	663,041
Oil-cake.....pounds..	389,494	6,323	3,214,817	38,244	5,282,485	58,576	41,955,868	525,084
Oils:								
Lard.....gallons..	14,490	8,379	24,149	14,516	36,655	24,648	19,342	15,571
Neat's-foot, and other animal.....do....	690	597	600	460	48	55	48	64
Cotton-seeds.....gallons..	1,094	451	48	22	18,095	8,594	18,707	9,109
Linseed.....do....					120	80		
Volatile or essential		69,760		101,407		55,511		118,028
Provisions:								
Bacon.....pounds....	37,508,897	2,051,712	26,843,862	1,786,494	39,879,444	2,982,852	3,482,623	295,856
Hams.....do....					1,670,326	172,655	397,733	44,024
Beef, salted or cured.....do....	2,409,670	147,104	2,516,769	178,182	2,053,104	140,443	1,938,742	150,065
Butter.....do....	8,210,578	884,735	5,349,549	663,720	1,760,197	279,439	1,264,078	189,040
Cheese.....do....	410,827	33,740	550,281	45,123	134,100	11,539	191,651	14,788
Condensed milk		1,547		191		467		
Fish		69,450		71,460		68,410		64,845
Lard.....pounds..	89,710,334	6,163,503	85,509,388	6,379,894	88,127,893	8,018,932	55,467,728	6,255,827
Meats, preserved		402,999		389,823		291,846		179,681
Oysters		27,145		22,709		26,694		25,192
Pork.....pounds..	919,817	52,281	1,259,417	79,364	1,455,646	108,218	1,109,000	92,546
Other vegetables		3		2		200		483
Vegetables, prepared or preserved		3,181		2,567		2,514		986
Rice.....pounds..	2,524	192	2,443	243	4,135	305	8,252	627
Seeds:								
Cotton.....pounds..					400,000	3,928	336,000	2,253
Clover.....do....			9,216,267	841,210	1,933,555	171,889	13,938,582	1,282,779
Timothy, garden and all other		564,826		7,806		25,707		45,215

Spirits distilled from grain ..... gallons..	122,416	35,868	410,263	146,429	592,461	119,584	140,423	27,795
Spirits of turpentine ..... do....	606,769	161,609	643,842	169,121	298,206	102,717	650,514	288,624
Starch ..... pounds....	3,546,214	152,761	2,668,649	118,650	2,603,091	127,436	1,366,410	62,577
Tallow ..... do....	12,008,784	835,277	11,688,328	749,253	6,980,973	470,735	249,637	20,214
Tobacco, and manufactures of:								
Leaf ..... pounds..	112,098,952	8,108,819	59,495,964	4,063,898	48,612,197	3,430,250	52,872,239	3,577,622
Cigars ..... M....	56	2,479	58	1,712	19	775	49	1,890
Snuff ..... pounds..	.....	.....	824	397	4,644	2,326	540	190
All other manufactures of	.....	80,518	.....	78,919	.....	62,599	.....	69,852
Wax (bees') ..... pounds..	5,464	1,500	10,083	1,987	2,980	803	1,125	337
Wine ..... gallons..	5,799	5,296	99,227	69,144	2,360	3,059	5,635	5,827

THE BRITISH COMMISSION REPORT.

In 1880 was issued the first report of the assistant commissioners, Messrs. Clare Sewell Read and Albert Pell, upon the elements of American competition, from observations and investigations made in this country in the autumn of 1879. They gave prominence to the spring-wheat section of the Northwest, hinting at its methods, and describing the mode of selling and delivering grain, and attempting to estimate the cost of cultivating an acre of wheat by operations which, "though the very reverse of barbarous, are simple in the extreme." They assumed as a fair average of this cost, including carriage six miles to a railroad station, ten dollars per acre. Of the cost per bushel they said: "The yield of wheat in the United States over a long series of years appears to have just exceeded 12 bushels per acre. For the year 1879 the yield is returned at 13.1 bushels. With a yield of 12 bushels the Western farmer could deliver from his wagon at the depot without loss at 3*s.* 6*d.* a bushel of 60 pounds, or 28*s.* a quarter of 480 pounds, which is 20 pounds short of the English weight of 5 centals. The normal price of wheat in America on the east coast will range not with the cost of production on the farms immediately surrounding the great centers of population and industry, but with the value of land, labor, and money in the new land of the West, plus the varying cost of inland freight. As it is true that the center of population and industrial employment in the United States is with certainty and rapidity moving westward, it is equally true that the cultivation of wheat is nomadic, and advances not in front of this movement but in the same direction, and is regarded by the farmers as more profitable; in other words, cheaper when conducted on virgin soil at a distance from the points of consumption than in the exhausted districts from which they migrate and give place to a population for whom they have to find breadstuff. Any estimate, therefore, of the prime cost of American wheat in England will depend materially on the cost of supply from the west." The average cost of transportation from Chicago to New York, for five years, per quarter of eight bushels (480 pounds), they make 3*s.* 5*d.* by lake and canal, and 6*s.* 10*d.* by all rail; the ocean transportation, 4*s.* 9½*d.* per quarter.

The cattle industry is considered in this report mainly with reference to the great herds of the ranches on the plains and in the valleys of the Rocky Mountain system. The facts are fairly presented, usually with a good degree of judgment and appreciation of governing circumstances.

Two years later, Mr. John Clay, jr., a member of the Royal Commission on Agriculture, made a supplementary report. He had made a report on California, in 1881, in which, as a result of absorption of the inflated views of production prevailing in San Francisco commercial circles, he expressed the opinion that the official average of annual estimates for a period of years, viz, 12 bushels per acre for the whole country, was too low. The modesty of such an assumption, from a cursory

glance at a few wheat fields, and casual talks with wheat buyers, is not altogether a unique exhibition, or unknown to American crop reporters of limited means of observation. But after the great depreciation in the yield of 1881, he changed his mind, and fixed the average at 12½ bushels, "a little above the official estimate." In the report of 1882, which evinces a knowledge of the factors of profitable agriculture, and an intelligent appreciation of the agricultural situation in this country, he takes a hopeful view of the effect of American competition, declines to believe that Western wheat can be laid down in Liverpool with profit at $1.25 per bushel in the years of the future, and "has no hesitation in saying that its influence upon British agriculture has been exaggerated." He admits that pork can and will be produced more profitably here than in England, but holds that our cattle ranges are already crowded, and that the death rate of the preceding winter resulted from this cause more than from the severity of the winter. He says of them:

> We hear a great deal about the vast herds of the Western States, but when seen they are a miserable class of scalawags, an unthrifty race, and their effect upon British agriculture is small indeed.

Yet he admits they "fill up a gap," and "supply a certain class of the population, and allow the better class of the stock to be exported", and declares that there is an insatiable craving for a better quality of meat among the meat-eating races of the world, and to this cause is attributed the recent increase of prices.

A more thorough knowledge of the facts would have pointed out the reduction of the corn yield of 1881, following a winter of heavy losses of cattle in the Territories, as the most potent factors in the remarkable advance of 1881–'82. He says concerning the meat problem:

> If the British farmer will not improve his stock and keep pace with the demand for better grades of all classes of beef and mutton, he will surely lose the day; but if he goes ahead and does all that lies in his power to maintain his reputation as *the* cattle raiser and feeder of the world, justly proud of his pre-eminent position, then he need not fear American competition so much. Almost boundless though the territory of the transatlantic stock raiser may be, we must ever remember that on the very best grazing lands of America it will take more than two acres to do the work of one at home; while out on the prairie, on the arid plains of Colorado and Wyoming, it will often require the grass product of 50 to 100 acres to keep an animal, while in good wild land it is estimated that a steer will need 10 to 15 acres to carry it through the year.

Relative to the claim of great profit in "bonanza wheat farming," he reports as follows:

> He clears a fair return, but seldom makes a fortune. I know of large wheat farms on the prairies which, with all those stories of cheap production and great prices, have scarcely paid interest and expenses, instead of making their owners gigantic fortunes, as they should have done at the above figures. The evidence in California, where the most leviathan wheat farms in the world are met with, is conclusive on this point, and I venture to say that most of the large wheat farms on the prairie will eventually fail, as nearly all large farms have done in this country. There are men of course who can carry through gigantic operations of any kind, but the average result will

be failure. If the American farmer can get no more than 40*s*. per quarter for his finest wheats in the Liverpool markets it will be a sad day for him. It is his only stronghold. The British farmer, when wheat fails him, has other strings to his bow. Our experience of farming is that the principal products of the farm, and more especially wheat, are delivered to the consumer at a little over cost of production.

AUSTRIA-HUNGARY.

The effect of American competition upon Austria-Hungary is considered in a pamphlet published at Vienna, entitled *Die Amerikanische Concurrenz*, by Dr. Alexander Peez, member of the Austrian Reichsrath.

He recognizes the fact that Great Britain is super-industrial; that her steady aim is superiority, if not supremacy, and the opening of all the markets of the world to the products of her manufacture. He hints at international protection against American and Russian competition, and thinks Great Britain should have taken the initiative, and asked a reduction of the tariff upon manufactures in compensation for the privilege of exchanging free of excise the raw products of agriculture.

Instead of this, he remarks that British measures only were considered, and that the interests of other countries were disregarded; instead of this, a union of Great Britain and her dependencies was broached, to be protected by differential tariffs. The idea was to obtain breadstuffs and all raw material from the British Colonies.

The author has no doubt about the motives that prevented the adoption of this policy by Great Britain. He sees in cheap grain a stimulus to English manufactures—"a powerful means for fortifying her industries and commercial sovereignty." He declares it is the "regular Manchester policy," which is followed so closely by the ministry, to protect the manufacturing interest by low prices of bread that will render possible low wages of labor, and that hereafter England's wheat fields "will lie in America"; and that while the home grower of wheat is sacrificed a small concession is made to the agricultural interest in the protection of the more profitable branch of rural industry, meat production, by interdicting free trade in American meat through annoying restrictions upon its importation. He recalls the fact that British industries "grew up under the pressure of a wheat price of 60*s*. to 65*s*. per quarter," and has been sustained, since the era of free commercial competition, by reduction in the price of wheat and meats equivalent to an increase of 20 to 25 per cent. in the wages of English laborers.

Farmers in England have acquiesced in low prices for wheat and meats, and foreign farmers have accepted still lower prices, to sustain the policy of dominating the manufacture of the world and controlling its commercial distribution. "London, Liverpool, and Manchester," says the essayist, "which were once the dearest markets for food supplies, are now the cheapest in all Western and Central Europe." He recognizes the truth that competition with the industries of the world requires low rates of wages and prices of raw materials, and that Ameri-

can and Russian underselling of food products is strengthening British industries and increasing the competing power of their products in the markets of the world. He concludes that England rejoices in the fact of American competition in the wheat supply, and has "forged out of the great production of America a new weapon against the continental industries." He apprehends that the present pressure, assumed to be due to the prosperity of British industries, will soon be "more keenly felt by other European countries; that these industries will more fully monopolize the neutral markets; that English statecraft will in still greater degree be the tool of the industrial interests, that English commercial policy, quite in opposition to the proclaimed principle of 'laisser faire' will attempt still more obstinately to open all markets for itself and to crush out all competitors." He instances such interference with the trade of Austria-Hungary, and thinks the neighboring states must come to the conclusion that in their trade endeavors they "will meet with a rival who, while he raises the standard of free trade by Government action, shapes his commercial policy to an exceedingly selfish end."

He concludes that as America and Russia are independent of foreign markets, and Great Britain takes possession of the markets of the world, that France, Germany, Austro-Hungary and smaller States should form a union to countervail these three great powers—a union for high foreign duties and low internal revenue taxes. In fine, he arrives at the conclusion, in international economy, that the meat upon which Great Britain thrives, may prove a poison to the Central European nations. The following extracts are from his work on American competition:

The Austrian industrialists never have disclaimed their solidarity with the farmers of the monarchy. As early as 1864 the "Society of Austrian Industrialists" devoted a series of papers entitled "Commercial Policy" to the relation of the industries to agriculture. It was an original work; for its motto was chosen an aphorism of the then Vice-President Colleredo Mannafeld: "Anything that brings a return of value is an industry."

This is a striking recognition of agriculture as the greatest branch of industry in Austria. Indeed, in no other country are the interests of agriculture and the industries so thoroughly identified with each other as in Austro-Hungary. Not only that the trade-industries, as everywhere else, obtain the greater part of their raw materials from the farm, but in many cases the intimate relationship between agriculture and the industries is shown by the fact that one man devotes himself to the two kinds of pursuits. The manufacture of sugar, the milling industry, the distillers, the breweries, the malt-industry, &c., are specimens of agricultural industries.

Any danger threatening Austro-Hungarian agriculture will likewise fill with concern the Austro-Hungarian industries, and therefore the latter must consult with the former about the best means to avert the danger, and lend a willing hand to apply them. The danger to which we allude is the competition resulting from the enormously increased raw production of the United States and Canada.

As early as 1873 small quantities of American wheat appeared in the markets and mills of Northern Bohemia. At the same time considerable quantities of lard and bacon came to us, and so great was the effect of even their first appearance that, while in 1870 Austro-Hungary exported 165,000 meter zentners of these articles, in 1874 150,000 meter zentners were imported, the American products having gone so far

as Pesth. Since then Austrian commercial history further records the fact that in 1879 American wheat was sold in the markets of Trieste and Fiume, the export ports of the Hungarian grain trade; and that in 1880 the pressed yeast factories about Pilsen consumed about 30,000 meter zentners of American corn, while in Reichenberg American apples have become a staple market article.

If, hitherto, these shipments were but occasionally made, it may be explained by the fact that the products of American soil were principally sent to Western Europe where, particularly in Great Britain, which country had been disappointed by repeated crop failures, they were sold at a paying price, and found an almost unlimited market. Feeling secure in consequence, we did not duly regard the first intimations of danger. In the mean time, however, American agricultural production has assumed so extensive proportions, and the American products have so fully established themselves in the markets of Western Europe, that the Americans have learned to know the advantages of so great an amount of exports, and have therefore made suitable preparations to this end; and it requires but little gift of prophecy to foretell that even crop failures in America can hardly permanently check the stream of shipments now that it is started, and that when England, France, and the rest of Europe have good crops the pressure of American competition must become simply enormous, and this pressure will not only curtail the sales of Austro-Hungarian products abroad, but under certain circumstances will even become dangerous to our farming interests at home.

Whence this sudden competition? Why this giant growth of American exports? How is it that great distances have been overcome with such ease, thus making it possible for the crops of the New World to be poured out over Europe? Will these shipments be permanent? And what effect will they have upon the condition of agriculture in Europe, and particularly in Austro-Hungary?

PROSPECTIVE CONTINUANCE OF COMPETITION.

In the foregoing investigations we attempted to show that the ordinarily active hinderances to American agriculture—want of capital and labor—do no longer exist; the former has been completely removed by the rapid internal growth of capital, and the latter has been materially improved by the emigration from the eastern part of the United States to the western, by European immigration to the Union, by the general use of machinery, and by the custom of the proprietors of large farms to discharge their farm-hands at the first fall of snow.

On the other hand, American agriculture has to contend with several drawbacks which are a rarity in Europe, at least in the central and the western part of it. We will mention, for example, the depredations of the grasshoppers and other insects, which often destroy entire crops in the best wheat regions—Minnesota, Oregon, Iowa, and Missouri, even in Utah, Arizona, Nevada, Montana, Idaho, and Wyoming. The Northwest sometimes suffers from severe cold, the mercury often falling as low as 30 degrees and more in the shade. There all depends upon a timely fall of rain. In California and in the prairies there is a lack of good water; often a drought prevails, much to the detriment of stock-raising. These disadvantages cannot be denied, but as they have not hitherto hindered the phenomenal progress of agriculture, they will be controlled in the future. A statement, which is quite strange, but often met with, claims that the extension of railroads and their great increase in number have caused a greater annual rainfall in the West, and that the frequent crop failures in England during the last decades are attributable to the attraction of rain, caused by the great number of railroads. More serious than any of the troubles mentioned above is the fact that the United States owes her condition to compete in Europe to certain limited sections of country which of late years have been given to the plow. Now, after the cream has been skimmed off these lands, the impetus of competition will become all the weaker, since America really practices exhaustive agriculture. It is said that one sees small armies equipped with horses and tools, and guided by the railroads, suddenly appear in the prairies; they encamp after the manner of nomads, plow the

ground, sow, harvest, and ship their crops, discharge the greater part of their farm-hands at the beginning of winter, re-employ them at a more favorable time in the following year, and thus continue until the exhausted soil refuses to recover; this condition of affairs being but transitory.

This description is just only in so far as the large farms of the distant newly-settled West are concerned; certainly is it but natural that extensive (exhaustive) agriculture should obtain in regions just referred to. The exhaustion of the soil generally does not take place until after the expiration of a considerable length of time, this depending, of course, upon the quality of the soil. Often wheat is raised upon the same field for five, ten, yes, twenty and more years in succession. The interpolation of a change crop serves to lengthen the period. Frequently it is preferable to completely exhaust the soil and then to take up new land; that is, the field is changed, not the crop. It is a plan which, of course, cannot be measured by the standard of European agriculture, which is founded upon permanent conditions and works out permanent conditions. The statements as to the extent of the reserve land for such agricultural methods do not agree. We do not care to give their figures but our opinion is that the Americans, for the purpose of making useful less favorable regions, have applied the requisite methods, and that there still are of this kind of land in both the United States and in Canada free areas which do not presage a speedy cessation of the heavy exports of grain. In the mean time, however, intensive farming is practiced by the sterling small farmers, and farming, as it is carried on in Illinois and generally in the older settlements of the Mississippi Valley, must not be confounded with the nomadic operations of the Northwest. In Illinois to-day there is a yield per acre of 6.9 meter zentner, which does not differ very much from the general average of 8.3 meter zentner per acre in England. Though a robbing culture (exhaustive culture) is carried on in parts of America, and though in others the proper care is not yet bestowed upon the means of replenishing the lost parts of the soil, yet we must expect that the commercial shrewdness, the energy, and the great capital of the Americas, will suggest different methods as soon as that practiced hitherto becomes less profitable. The latter, we repeat it, is not the offspring of poverty and ignorance, but of cool calculation. Increasing population will, as it has done elsewhere, lead to more extensive farming, and in the continually increasing herds we see the mediators which will improve the soil and render possible and accomplish a transition to more intensive methods.

For the present, however, we can see nothing in the peculiar agricultural methods of the American which might within the next ten or twenty years (and further than this we need not now look ahead) cause a slackening of American competition abroad When we consider that the Mississippi Valley, fruitful throughout, though thinly populated in the northern and eastern portions, is six times as large in area as France; when we learn that Texas, with a population, of two millions could produce enough bread and meat to supply the sixty-seven millions of population of Germany, England, and Wales, and Atkinson assures us that the United States have 200,000,000 of acres of land, or 81,000,000 hectares suitable for raising Indian corn, yielding over 5,000,000 bushels, or 1,275,000,000 meter zentner—that is, three times the present crop; furthermore, the profits of American agriculture are estimated by experienced men to be from 20 to 25 per cent., and if this is a confirmed proof of the high returns in the fiscal year ending June 30, 1880; 10,459 kilometers* of new railroads were built, and further, 22,500 kilometers were projected—then we cannot attach much importance to the objections mentioned above.

The crumbs of comfort Europe has derived from certain troubles in the system of transportation have likewise proved to be a delusion and a snare.

By the export of cereals, gains are made. These gains invite immigration and increase of population; thereby the number of domestic consumers in the United States

* One kilometer = 0.6214 mile.

is increased. This causes a decreasing percentage in the amount of grain set aside for exportation. Therefore, the equilibrium between America and Europe will inevitably be restored. All this is not only strictly logical, but it is incontrovertible; only no one can make anything out of the conclusion one is compelled to draw from such premises. In the mean time, we may all be dead and gone. The former "equilibrium" might still obtain, had it not been disturbed by the unphilosophical energy and trade policy of the Americans; and even if we do not fortify ourselves with an approximatively similar energy, the equilibrium will sooner or later be again established—but without us, against us, and over the ruins of existing economic conditions, not to say of existing states and countries.

INTERNATIONAL PROTECTION.

Steam-power has revolutionized the world. Backed by this power, and being the first to use it and most energetically for industrial production, for railroads, and particularly for her lines of steamers, in order to span the earth with cheap transportation, Great Britain has in three generations, while continental Europe was exhausting itself in wars, revolutions, and reactions, risen to be the first economic power of the earth.

Using the same power (though more especially applying it to railroads), Russia and the United States have overcome their old difficulty (great distances) and now, with all the weight of their vast territories organized by steam power, they stand by the side of England, though it cannot be denied that Great Britain, by virtue of her industries, of her wealth in capital and colonial possessions, of her well-founded political conditions, and of that discipline of ideas which has directed religion, politics, and commercial policy into like and compatible channels, is by far the first in rank, as far as political economy is concerned.

Compared with these three giant powers, England, Russia, and the United States, Germany, France, Austro-Hungary, and Italy are only of secondary importance. The latter countries, as likewise the smaller European powers, though teeming with intellectual and material strength, are, together with their trade policy, thrown upon the defensive by those three "mighties."

Great Britain is superindustrial. Her commercial policy is simple, its object being the opening of all markets to the product of the English industries. In her policy she has not been altogether unfair, since she granted to other countries, too, the free market she demanded. Whether or not this feature is more ostensible than real, we shall not discuss here. We have shown above, in speaking of the restrictive measures adopted by England with regard to the importation of live stock from the Continent and from the United States, that the measures of British trade-policy are only so long in force as British interests are thereby furthered; yet is it undeniable that Great Britain has opened wide her ports for agricultural products, and thus has given the venders an opportunity to pay approximately at least for their purchases of English manufactures in agricultural products.

The other two great powers, on the contrary (Russia and the United States), have from the beginning taken a different stand. They force their way into commerce, flood Europe with farm products, and then close their markets to European manufactures. Europe would overlook a few bad features arising from the wholesale shipments from Russia and America, and receive with open arms their productions, if the latter could only be paid for by European manufactures. The trouble, the injustice lies in the want of reciprocity.

Under these circumstances, an international protection against American and Russian competition would have been in order, and the initiative ought to have been taken by England, the heaviest recipient. If she had united with the Central European States, and had asked of Russia and of the United States a reduction of their enormously high protection tariff, by way of compensation for allowing the crude

products of those two countries to enter as heretofore, free of duty, or with a slight duty on them, then a demand like this might have been successfully entertained. Russia, owing to her critical condition, would hardly have resisted very long. But such an initiative was not taken. When protection against the commercial policy of Russia and America was spoken of, only British measures were thought of in England. The idea then was broached of making the United States, by a duty upon the productions of her soil, help to pay off the real estate indebtedness of Ireland; furthermore, a union of Great Britain and her dependencies was discussed, which was to be protected by differential tariffs. At a meeting held in June, 1881, Stanly Hill said: "We ought to import our grain, our breadstuffs, and everything that can be produced in our colonies, from these colonies only; and the latter ought to buy all the industrial wares they need from England, their mother country. Then America, France, and Russia will speedily enough drop their tariffs."

But all these propositions were not favorably received; and he who knows the commercial policy of England, and particularly that of the liberal ministry, cannot long be in doubt as to the motives.

England has assumed this attitude toward the mass production (massen production) of America and Russia; *she deserves a profit therefrom.* As a capitalist, she has made great gains out of the American national debt, which is now being paid back at full par value, and out of American effects still in her possession. The agents of her lords and financial kings are still buying whole counties in the United States, by this means to secure a share of the restless American's work. As a farmer, she has saved by means of the restrictions upon the importation of live-stock, the more valuable part of her agriculture, namely, stock raising; but grain culture she has sacrificed to American competition. But as an industrialist, she has recognized, in the great increase of the earth's production of raw material and the consequent cheapening in price of their products, a new and powerful means for fortifying her industries and commercial sovereignty, and has turned this means to account.

It is regular Manchester policy which in this great question is followed by Great Britain. England's wheat fields in the future will lie in America. In 1880, 62.3 per cent. of the wheat and flour consumed in Great Britain came per ship from abroad, leaving only 37.7 for the domestic production. Of the 62.3 per cent., 85 per cent. was furnished by the United States. It is obvious, then, that according to this England will never be able again to wage war against the United States. True, so long as England is Queen of the Seas she will not necessarily starve at once, since she might draw upon Canada, India, and Russia; yet this could only be done under wild speculations, exhausting crisis, and at an enormous expense. When, in 1863, during the civil war in the United States—favored and fed by England, the importation of cotton was stopped, the terrible cotton crises in Great Britain was the result. Yet this would be as child's play compared with the crisis that would be brought about by a stoppage of the exportation of food stuffs from the United States to England. However, that the English and the Americans may fight out among themselves; to the Continental States, it would be quite agreeable if Great Britain should give to the world a new hostage of peace; and if her threats, to which her over-reaching commercial policy so often results, were tested for what they are worth, we would observe that in case of war with England, a second-rate, yes, a third-rate, power would be fully capable, by means of cruisers, of embarrassing the supplies of food to England, and to run up the prices of food articles to a dangerous height; and with a continuance of the difficulties, all the business of transportation from America to England, now managed by the English, and which is so important, would be thrown into American hands; and this would be the end of England's sovereignty on the seas.

When the relations between England and America react directly upon our interests, the cause may always be looked for in the commercial policy of the former country. For no trifling reasons could it have been that far-seeing English statecraft delivered into American hands a large part of her own agriculture; and that

the mighty lords permitted, without opposition, the annual income from their lands to be reduced 15, 20—yes, 25 per cent. Important objects must have been in view. These objects are evidently the industrial power of England, re-enforced by the increased importation from America.

London, Liverpool, and Manchester, from having formerly had the dearest markets for food supplies, have now the cheapest in all Western and Central Europe. This is a commercial fact of the greatest importance. It must not be ignored that the English industries at the beginning of this century grew up under the pressure of a wheat price of 60 and 65 shillings per quarter. Even in 1860, the Chamber of Commerce at Pesth claimed that wheat must bring 60 shillings per quarter in London if the shipments from Hungary were to be profitable. In later years, as shown above, the price in England has been 48, 46, and 44 shillings, and it continues at these figures after several crop failures; with good, domestic crops the price may fall to 36 or to 32 shillings. As it is, the wheat price in England, compared with the standard of 1845 to 1848, has fallen 18 per cent. The price of salt meat, ham, and bacon, has declined considerably more. This is equivalent to a 20 or 25 per cent. increase in the wages of English laborers. Labor-strikes seem to have ceased. The prosperity, contentment, and working-power of the 24,000,000 laboring population has increased considerably; production has become cheaper. *All this indicates a strengthening of the English industries and increased powers of competition.*

If, therefore, England observe a "masterly inactivity," the motives are quite obvious. They are similar to those which wrecked all attempts of the Central European countries, and of the United States to restore the bi-metallic system. England considers her own interests only. The land-owning aristocracy, being the strongest branch, having received in form of rent reduction the main blow of the American competition, manages to steer clear of loss, on account of their great sums of movable capital, and their possessions in real estate. Only a certain portion of the English tenantry were crushed by the blow, but the small Irish tenants suffered much, and soon will be seen to cross in masses the Atlantic Ocean. But the industries and commerce were greatly strengthened thereby.

The annual income of an English laboror's family is estimated in round numbers at 1,000 gulden gold, or $500. Considering this fact, and the low living expenses of late, we can see that the English laboring class is now upon an equal footing, as far as the ordinary conditions of life are concerned, with the trades-people and peasantry of the continent.

Formerly, England had the most available capital, the highest wages, and the dearest food supplies of any country in Europe; now, to the most available capital, the lowest prices for food-articles have been added. This lowness of the living expenses and the consequent prosperity of the laboring class necessarily causes a larger percentage of increase of the working population, and an expansion of the industries. A population of many millions in England lives on the surplus of cereal production in Russia and America. Will this surplus continue? Will it not become a rarer occurrence and cease altogether, as the industries of Russia and of the United States become more fully developed? And will there be other countries that will take the place of America and Russia in provisioning the laboring classes of Great Britain? May not this intimation of trouble apply to more remote periods of time to come? It cannot be put off; every condition of this kind artificially brought about, contains elements of danger, not alone for the country immediately concerned, but for the whole of Europe. The cheapness of provisions is a stimulus to the English industries, and the latter repelled by the prohibitive duties of Russia and America, fall back with all the greater violence upon the smaller countries. We regard it beyond all doubt, that the present pressure caused by the luxuriant growth of the English industries will very soon be felt still more keenly, that the English industries will more fully monopolize all neutral markets, that English state-craft will in a still greater degree be the tool of the industrial interests, that English commercial policy

quite in opposition to the proclaimed principle of "laisser faire" will attempt still more obstinately to open all markets for itself, and to crush out all competitors.

Twice within the past twenty-seven years the British leopard's commercial claw, under the virtuous Manchester guise, has made its dread appearance—once in 1864, when England, under Gladstone's leadership, succored and recognized the American slave States; and the second time when, in 1880, the same pious man called out to the Austrians: "Hands off!" and attempted to stir up anew the Oriental question by means of Greece. A sample of these tactics Austro-Hungary saw not long since in Servia, when Great Britain opposed the commercial treaty of Austria with Servia and the extension of the Turkish railroads. Here no old market for English industrial products was concerned, but a small country, which for many generations has been receiving all the manufactures it required from Austro-Hungary and from Germany, and had only quitted us because of its accessibility to the Turkish railroads, thus becoming a customer of England. If England's obstinate opposition (appearing in different guises) with regard to holding this small market before our very doors is considered, all those countries in Europe that possess an industry and require a market for its products must come to the conclusion that, in their just endeavors, they will meet with a rival who, while he raises the standard of free trade, by government action shapes his commercial policy to an exceedingly selfish end.

This secret undermining of English diplomacy is to be feared by the continental countries—not the trade compact between England and the colonies, of which compact so much has of late been said in English circles. What that she does not already possess, could the English industries gain by such an agreement fitted out by differential tariffs upon all foreign products? Even now the share that France, Germany, and Austro-Hungary have in supplying the markets of the colonies with manufactures is diminishingly small, and the colonies with a large percentage of European population—like Canada and Australia—would hardly agree to absolute free trade with the mother country by ad valorem duties ranging from 15 to 20 per cent. The "union" could then only be directed against the raw production of the United States, but as we have shown above, English statesmen have given up any such attempt; on the contrary, they have forged out of the great production of America a new weapon against the continental industries.

If we examine these conditions and consider the peculiar position of the three leading economic powers—Russia and America being independent of foreign markets as far as the products of agriculture and of the industries are concerned, in fact shutting themselves off from the European industries, while Great Britain looks up every market for manufactures in the world and takes possession of it for her fast-grown industries—it would seem important that France, Germany, Austro-Hungary, and the smaller states should, by means of a union, try to countervail those three great powers. They ought first to form among themselves a union with high foreign duties and low internal-revenue taxes, from this vantage-ground to treat with those powers for mutually free conditions.

This idea for forming a central European union is not a new one, but its execution lies wholly in the political field, and only a due appreciation on the part of the leaders or very great calamities will tend to remove the natural hinderances and opposition to this plan. The more distant, therefore, the time, the more's the pity. When international action takes place with regard to American competition, the more necessary is home protection by means of strengthening and concentrating all productive factors.

We come to the conclusion: It may be well or not, but the different states are more and more assuming the character of large corporative unions (not to say "business" corporations), for the purpose of securing the greatest possible share of earthly goods for all classes of society. The two great Anglo-Saxon states, of which one by the end of this century will have 100,000,000 population, and the other (with its colonies) over 300,000,000, are already beginning to steer into this channel, and are compelling

by their competition other body-politics to follow their example. He that does not wish to step back and be crushed, must keep up. Quiescence and romance are disappearing from the world. The old states of the Continent must appropriate a drop of the American blood. Cherished dreams and ancient prejudices are no longer tenable. How will the overburdened bear up in this cruel race-track? And will there be any room left for the support of national bickerings?

In the sixteenth century American competition ruined the mining industries of Europe, changed the direction of the world's commerce, brought about by the increased amount of precious metals a revolution in prices, transformed the social conditions, and prepared the terrible civil war of the seventeenth century—the thirty years' war. May the competition of America in the nineteenth century lead to more happy results. No doubt it is the greatest economic event of modern times. If it will prove a blessing or a curse depends upon the good judgment and energy with which the Governments and peoples of Europe will meet it.

A CRISIS IN GERMAN AGRICULTURE.

A pamphlet written by Max Wirth, and published at Berlin, entitled *Krisis in der Landwirthschaft und Mittel zur Hülfe*, admits that a crisis in agriculture has come, calling for prompt and radical measures of relief. The following quotations indicate fairly his views of the situation:

Agriculture is at present, so far as production of grain is concerned, in a crisis such as has not occurred in the history of husbandry since the introduction of steamships and railroads. From 1876 to 1879 Great Britain's crops were a succession of failures, and in the latter year a like calamity extended over the greater part of the European continent. In the United States, in consequence of an exodus-like movement of the working classes to the West and to the Northwest, every summer since 1876 shows a greatly increased acreage of grain. Aside from this the United States have been blessed since 1876 with uninterruptedly good crops, so that from year to year the increasing, enormous surplus of grain has been sent to Europe. This export during the winter of 1878–'79 surpassed that of any previous year because the demand in Europe was greater than usual, and because the facilities for transportation, both on the sea and on the land, are more perfect and extended than ever before. It is estimated that in France, during 1879–'80, the demand in grain was equivalent in value to 600,000,000 francs, and that of Great Britain was not much less. As Germany, Austro-Hungary, and other European countries likewise had short crops in 1879, the total demand for Europe was estimated in round numbers at 1,000,000,000 marks. The greater part of this demand was supplied by the United States, the remainder by Russia and India, the latter country having had an excellent crop in 1879. In addition to this, on account of improved means of transportation, American exports of meat were very much increased. After the introduction of refrigerators for shipping fresh-killed meat, a fleet of steamers was built, constructed for the special purpose of transporting live animals. On this account the exports of the United States in meat and live stock alone reached the enormous sum of $87,000,000. These phenomenal exports have just but fairly begun, and there is no telling how long they will continue. Of course, we must remember that those countries raising grain principally may have crop failures too, and a temporary check may be experienced. The grain areas of the United States extend over too many degrees of longitude and latitude to have uniform weather throughout; and as the weather is not uniform even in Europe, it cannot be expected to be so in America. Besides this, Russia and India enter into consideration. It will not be long before Australia will enter the ranks of those who supply grain and meat, and will compete with the European farmer. At the present rate an overproduction may be the consequence in the wheat-growing States of the West,

which may result in a crisis, and many farmers would probably turn their attention to the production of other crops.

The inferences which the writer draws from existing facts are briefly as follows:

1. The circumstances under which America produces grain are so favorable as to make the cost of production 33⅓ per cent. less than an average in Europe; that the wheat areas are extending, and that in consequence of improved means of communication the rates of transportation are lower than in Europe, and are expected to be still further reduced.

2. That Russia, by the improvement of her agriculture and the introduction of the steam-plow and other approved farm machinery, and better facilities for commercial intercourse, has been able, though surpassed by the rivalry of America, to increase her grain exports to the value of 400,000,000 marks annually; and that Egypt and India have also entered the list of countries which send their surplus to Europe.

3. As a result of improved means of transportation, a change in the international supply of cattle and meat has been wrought, which is assuming enormous proportions, serving to check the upward tendency in the price of meat, and thus proving a permanent good to the working classes of Europe.

4. That as a result of these changes in international trade in grain, meat, and cattle the farmers of Central and Western Europe are attacked by a competition which threatens to reach a crisis to be met by organized measures for relief.

5. That the recently enacted tariff and hampered railway transportation are injurious to consumers, especially the working classes, and even to the small farmer, because they lull his fears and prevent his resorting to more effective measures of relief.

6. An important remedial measure is the improvement of inland navigation, reducing cost of transportation and lessening effectively the burden of marine competition.

7. Another measure of relief is the construction of a network of local railroads, and securing by law the privilege of laying the tracks of tributary railways on the public roads.

8. That the present position of capital favors in a high degree such an undertaking as the establishment of a system of intercommunicating railways.

9. That canals should be built, on an extensive scale, for the purpose of draining and watering meadows and fields and for obtaining water-power.

10. That the price of land is too high, and if raised further a crisis will be precipitated that will result in a great depreciation of land values.

11. A belief is expressed that the necessary meat and grain supplies of Central and Western Europe can still be produced at home; that in

the small districts most affected by competition there should be a resort to crops that give a profit.

The author concludes with the consolatory view that food from transmarine sources cheapens the cost of living to the poor and averts a possible danger of famine, and expresses the confident opinion that the measures he suggests will avert all the evil results of competition to the German farmers. He says:

We are of the firm conviction that by the vigorous application of the remedies suggested our farmers will not only be able to hold their own, but will positively improve their condition. Then an appropriate, international division of labor can be established, according to which every section of country can follow the pursuit returning the greatest profit for the exertions of its population; and the great blessing bestowed upon the consumers, particularly upon the poor working classes of Europe, by the importation of the surplus of the New World, will not be alloyed by the curse of impoverished farmers.

We must remember that in former times Europe was stricken with famine, returning at regular intervals and assuming the terrible character of similiar calamities not long since prevalent in China and in India, where in the course of a few months millions of human beings died of hunger. We must remember these things in order to appreciate the boundless blessing conferred upon the population of Europe by the shipment from transmarine sources—such shipments being made quickly on account of the improved means of transportation—thus bringing about equable prices, preventing too great a rise in those prices, and precluding for all times the possibility of a famine.

VIEWS OF DR. PAASCHE.

Dr. H. Paasche, in a series of articles in the year-book of National Economy and Statistics, published at Jena, presents statistics showing the decline in prices of agricultural products in the past decade throughout Europe, as a result of heavy importations, largely from America. He considers the effect of this competition upon the profits of grain growing and meat production, and in many instances the losses of capital involved and the imminency of further serious losses. The following quotations are made from his writings:

The transatlantic imports of grain, though for some decades past quite considerable in English grain markets, have of late years assumed astounding proportions; and the products of American farm animals have likewise been crossing the ocean in alarming quantities. Meantime in Central Europe an unusually languishing condition of agriculture is observable; so that not only in Germany the agrarians and protectionists are clamoring for protective tariffs for the domestic products of agriculture and farm animals, but even in free-trade England occasional demands for protective legislation are expressed, in order that foreign competition might be controlled.

Depression of prices with us is certainly not wholly due to the direct imports from America, but in a great measure are attributable to declining English prices, since, by means of our intimate, direct commercial intercourse with England, our prices are subject to the same influences which tend to depress London prices.

Since 1874 the farming interests of Germany have been suffering from constantly declining prices for farm products and farm animals. Between 1874 and 1878 there was a succession of poor crops, while in America they were unprecedentedly good for this period of time. Furthermore, there was in the latter country a vast annual increase in acreage, particularly in wheat. Vanderbilt, having succeeded in reducing the freight rates on his railroads by about 66 per cent., the transportation costs across the Atlantic ocean having been made much lower, and plans having been

devised by means of which fresh meats could be sent without spoiling across the ocean, American grain and meat began to appear in English and German markets, causing a depression of prices for the home products. This competition, however damaging to the farming interests of Germany, it is believed, cannot be regarded as an established fact, since it seems little likely that America will continue to have rich harvests and Germany poor ones. Another fact to be considered is this, that American farmers having found wheat to be a paying crop, they are devoting more than their usual attention to wheat raising, to the neglect of other crops. If this continues there will be a glut in the American wheat market, and if the wheat crop should be a failure, the farmers would raise less wheat, and put in more of the other crops. Yet, even if these adverse circumstances should arise, America can still successfully compete in German markets because of the cheapness with which crops can be raised in the New World. This is due to the merely nominal price of land, richness of the soil, efficiency of farm help, and the almost universal use of improved farm machinery. So much for the causes of the languishing condition of German agriculture.

If the evils of American competition cannot be removed they can at least be lessened. The German farmer must let go his hold on the traditions of the past; he must arouse his energies and adapt himself to the demands and circumstances of the times. Agriculture is not what it was twenty years, yes, even ten years ago. German farming must be revolutionized and that promptly. The cost of production must be reduced, and this can only be done by labor, time, and money-saving machinery. An incidental element of improvement in our prices may be looked for as soon as the condition of English agriculture is bettered, for, as London is the commercial metropolis of Europe, London prices influence the prices in Germany.

A CALIFORNIA GERMAN'S VIEWS.

A pamphlet is published in Wismar, Germany, written by Mr. Heinrich Semler, a resident of California, to show the true significance and real causes of the North American competition in agricultural products. It is entitled *Die wahre Bedeutung und die wirklichen Ursachen der Nord-Amerikanischen Concurrenz in der landwirthschaftlichen Production.*

Mr. C. Wildbrandt, of Pisede, in an introduction to this publication, says it is not to be denied, in view of the consequences of the American competition in their grain markets, that German farmers have before them a hopeless, dread-inspiring prospect. Still he is disinclined to give up in despair, and asks his countrymen to remember that Germany has had a Thaer, and a Liebig, and a host of scientific men who have aided in the development of their agriculture. He expresses the opinion that if the extension of agricultural area in a country thousands of miles away, where a sparse population must practice an extensive rather than intensive system of culture, can endanger the achievements of centuries of wise experience aided by exalted science in the Fatherland, then agriculture is a frail structure liable to be overthrown whenever cheap and broad acres of fertile soil in another country should be given to the plow. Mr. Wildbrandt derives some consolation from the fact that prices have in several instances been lower, as follows:

However, the apprehensions aroused in the minds of many in 1879 have begun to be somewhat calmed, since the prices of grain again indicate an upward tendency.

In Prussia the average price of wheat per Berlin scheffel (bushel reckoned at 85 pfund—pounds) in 1879 was 8.34 marks* exceeding the wheat price for 1851, by 2.04 marks; 1852, by 1.12 marks; 1858, by 0.71 mark; 1859, by 0.84 mark; 1862, by 0.63 mark; 1864, by 1.64 marks; 1865, by 1.50 marks; 1866, by 0.10 mark; 1869, by 0.18 mark; that is, the average price for 1879 is higher than the nine lowest annual averages of the past two decades. This fact incontrovertibly proves that on the whole the production of grain could not have exceeded the consumpton sufficiently to cause alarm, particularly as 1878 was a markedly prosperous year as well in almost all European countries as in America. If in fact the increase in trans-Atlantic exportation had been greater than the increase in European consumption, it would have found expression after so rich a harvest in an unusually low price; but the price for 1879, according to statistical reports, cannot be regarded as low. * * * Surrounded by the comforting glamour shed about us by the advantages of European culture, we are accustomed, from the height of those advantages, to view with polite contempt the "condition of things in America." * * * But we should commit a most egregious error of self-deception were we to deny that "there is another side" to all these advantages, and if we should give up to their influences our agriculture would languish and our energies be crippled in the same degree that the less ameliorated conditions of American life tend to stimulate thrift and energy.

It is generally claimed and promptly admitted by every one that the Americans are more "practical" than we are. This seems rather surprising, since quite a large percentage of the American population is of direct German origin; and it is asserted that the Germans in America, as far as capacity, amount of work performed, and business push are concerned, are quite up to the standard of the representatives of any other country. If, then, on the other side, a practical turn is developed in the Germans, it only proves that this quality is innate, and if it is more greatly developed there than here it only leads to the conclusion that the quality of practicalness is not in our environments subjected to the same stimulus as in America.

* * * He who carefully studies the contents of this book will at once recognize what is necessary for our farmers to do. It is most valuable to us in two respects: First, in that it completely dispels that ghastly apprehension about American competition, such apprehension serving only to cripple our energies and to confuse our objects; and, secondly, in that it graphically describes so many emulable qualities of the Americans, which we, in our supreme sense of safety, thus far secured by our more favorable conditions, have been ignoring but too long. Yet if we resolve pliably to adapt ourselves to the changed conditions; to wipe out practices hurtful to us; to endeavor, free from prejudice, to improve in all we do, and to look to our own resources for the means with which to oppose the pressure of the times, German agriculture will no longer look despairingly into the future, but energized anew will wing its upward flight to prosperity. The superior advantages of social culture in Germany will, without doubt, place German agriculture far in advance of its rival, and the land of the Thaers and Liebigs will have no cause to fear a competition offered by a country which, though blessed with admirable political institutions, yet gives to husbandry a crude empirical attention.

Nor is the author, Mr. Semler, while enumerating the superior advantages of American farmers, disposed to be despondent. His desire appears to be to show his German friends at home how American competition can be met and its dreaded consequences averted. He says:

My desire has been (in this book) to convince the German farmers that they need not fear American competition if they will but appropriate the *self-wrought advantages* of the Americans. True, the latter have acquired their land at a low price, yet this advantage is counterbalaneed by higher rates of interest and higher taxes; true, they can still practice exhaustive farming, yet the prices of their products are so low that

* One mark = 23.81 cents.

they enjoy no material advantage in this respect. Certainly their soil cannot become more productive, and the wages for farm labor are higher and farm machinery is more costly. And while they did appear in the German market as dreaded rivals, they did so by virtue of certain self-wrought advantages, which I will again briefly enumerate:

1. The division of the land into sections, ranges, townships, thus securing squares and the locating of farm-houses to advantage.
2. The energetic application of improved machinery in all farm work.
3. Superior implements for house and field work.
4. The practical internal arrangements of the dwelling-houses, stables, and barns.
5. The skill, reliability, and endurance of the farm hands.
6. Being satisfied with three meals a day.
7. Constant contriving how to save time and labor and the speedy application of the results.
8. Division of labor and pursuit of special branches of production.
9. Willingness to undertake and do, and a steady child-like hope in the "good time coming."
10. Political freedom and its offspring, self-government, which brings up men who are accustomed to self-help.
11. The conservative mortgage and homestead laws.
12. The great respect and sympathy ever cheerfully shown by all classes toward those persons engaged in agriculture, thus infusing continually new life into them.
13. The farmers' clubs with their practical objects.
14. The excellent organizations of commerce and of collateral institutions.
15. Elevators, refrigerators, grain exchanges, common store-houses, shipping-houses, &c.
16. The harmonious co-operation of farmers and merchants, and the powerful aid given by the latter to agriculture.
17. The low rates charged by the railroads for freight, and the building of new railroads for the opening up of the agricultural districts to settlement.
18. The great attention which the press gives to agriculture and the constant endeavor of the press to urge on the farmer in the path of progress.
19. The absence of the pride of caste; the intimate intercourse of all persons with each other, no matter of what calling, by which the standard of popular intelligence is elevated, a large fund of knowledge thus reaching the poorer class of farmers.
20. The absence of social or other barriers among the farmers themselves, the latter as a class receiving the benefits of the advantages just enumerated.

If we consider how greatly the annual increase of population alone increases breadstuff demand, we cannot escape the conclusion that the greater acreage in America should not cause us fear about the disturbed relations of supply and demand. We may safely set down the population of Europe at 320,000,000; that of the United States at 50,000,000; that is, 370,000,000 together. The annual increase of population estimated at 1 per cent., and this is hardly high enough, would give us 37,000,000 souls. Estimating the consumption of grain by this increase of population in the way of bread and beverage (beer and whisky) to be 440 (pfund) pounds per head per year—and this accords with the estimates of the best authorities—the annual increase in the breadstuff demand, would in this small portion of the earth amount to more than 16,000,000 (zentner) equintals *one hundred weight*, an amount altogether disproportionate to the annual increase of American exports during the last decade. Besides, in this we have ignored the fact that prosperity is an important factor in raising the demand; so that the latter is really increasing faster than we have estimated. Striking proof is shown in the movement of wheat consumption in Great Britain during the period of thirteen years from 1866 to 1879. During that period the increase of breadstuffs amounted to 26 per cent., while the increase in population can hardly be estimated so high as 13 per cent.

TRANSMARINE COMPETITION IN FOOD PRODUCTS.

A Leipsic publication on foreign competition with Germany and other European nations is entitled *Die überseeische Lebensmittel-Konkurrenz*, and written by Mr. Karl Kautsky. He reviews the facilities for production of competing nations and cites statistics to show that the United States, La Plata, and Australia have more cattle, sheep, and swine than all Europe, which contains about four times as many people as these young nationalities. He finds that the European farmer is in danger of being forced out of the grain and cattle market, and that the business of the miller is despoiled by shipments of flour instead of wheat; that the distiller is injured by foreign manufacture of spirits from cheap corn; and he even fears that the beet-sugar industry will be injured by American competition. In view of this invasion of agriculture and allied industries he says:

More radical measures must be adopted if European agriculture shall prevail, or shall we join the free-traders, who advise us to hold our hands, since American competition, after all, is a benefit? Because, as they say, it prevents in years of crop-failures a rise in prices, makes bread cheap, reduces the cost of industrial production, and altogether proves a blessing. Thus spoke the Roman tribunes, from Gracchus to Cæsar, who, in order to gain popular favor, procured cheap bread for the people. The ruin of Italy was the consequence. When the free-traders prate so much about the low cost of grain production, they forget altogether that the cheapest of products cannot be disposed of when there is no consumer. Next to the day laborer the farmer is the principal consumer in the home market. In former times crop-failures did not materially affect the farmer's ability to consume, because the worse the crops the higher the prices of provisions rose. Now, the prices do not rise when the quantity of yield falls, the farmer loses the means to consume; indeed a crop-failure, when he no longer has any credit, makes a proletaire of him. He swells the numbers of industrial over-population, or he emigrates, and the power of the people disappears with him. Hitherto the industrial proletariate has been saved from rapid degeneration by being steadily recruited from the country. When there are no more farmers, Europe will go down from depopulation and debility, the fields will have been turned into cattle ranges, and these into wild growth of underbrush, and the blessing-bearing future we are to permit quietly to come, because the low grain prices are profitable to a few manufacturers.

M. Kautsky gives statistics showing the progress of production in competing countries, and notes briefly their relative advantages in production. A few paragraphs will give the general tenor of his views in this connection:

Pliny says that the decline of Italian agriculture is attributable to the "Latifundium* (a large estate, extensive possession). This opinion is only partly correct. The large estates were not so much the cause as a symptom of the ruin of agriculture. The real cause was transmarine competition, that is, Sicilian, Sardinian, and Egyptian grain; the inexhaustible fruitfulness of Egypt and of Sicily, the farms arranged on the Carthagenian plan, and the circumstance that sea transportation, particularly from Sicily and Sardinia to Latium, was less expensive than the unwieldy transportation by land from Campania, Etruria, and even from Upper Italy, caused a flooding of Italy with a mass of transmarine grain, which so much depressed the prices that the Italian small farmer could not make farming pay. In Polybias's time a

** Verum confitentibus, latifundia perdidere Italiam jam vero et provincias.*

night's lodging and a day's meal cost in the richest grain districts of the Peninsula (in the Romagna and Lombardy of to-day) half an ass (3 pfennige), about three-fifths of a cent, and the Prussian bushel (scheffel) of wheat brought half a denarius (35 pfnenige), about 7 cents, while the normal price was 4 marks ($1). This shows that Italian grain had no sale. No wonder that the small farmers disappeared like snow before the sun.

In British India, until within a short time, no attention was paid to the production of grain, but was almost exclusively directed to the cultivation of rice. Since 1870, however, the Government has made endeavors to encourage the cultivation of wheat. In 1873 the export duties were abolished, and this act resulted, as Dr. Forbes Watson shows in his report for 1879 to the Government, in the production of from 87,000,000 to 100,000,000 hectoliters of wheat in the provinces under immediate British rule, about the same quantity as is produced in the United States;* and, besides this, 14,500,000 hectoliters in the states of Punjaub, under British protection. This account of production would be increased if the Indus Valley Railroad were completed.

Canada, for the present, need hardly be considered ; her exports will only be of any account when the Canada Pacific Railroad opens up the rich lands of inner Canada, which have hitherto been accessible with difficulty.

The Australian export of cereals is small in comparison with that of the United States and of East Indies.

Meantime Africa is becoming an important exporter of grain to the world's market. The fruitfulness of Egypt, this corn-crib of the ancient world, is inexhaustible on account of the annual inundation of the Nile. But just this dependence upon the inundation makes the production of grain a very uncertain one, and consequently the amount of export is fluctuating, while in 1870 the export amounted to only 14,994, in 1866 12,530, and in 1865 only 1,200 ardebs. In 1879 the value of the exported grain was over 44,000,000 marks.

In Algiers the area of grain sown and the exports of grain are steadily and rapidly increasing. The grain area in 1869 was 1,684,000 hectares, the yield 10,676,000 meter-zentner (100 kilograms) ; in 1876, 2,949,000 hectares produced 18,019,715 meter-zentner.

We see that the quantity of grain flooding the European markets is increasing from year to year. When the projected Indian and American railroads are completed, and those of Algeria and Central Africa open up nature's treasures, then the amount of breadstuff at the disposition of Europe will be simply enormous. Even now, while there is but one competitor to be feared, the transmarine import is almost crushing. The grain-importing States of Europe require on an average 48,000,000 hectoliters of foreign grain, while in 1881 there were 114,700,000 hectoliters to cover this demand, 68,000 hectoliters coming from the United States alone. It is quite natural that this enormous excess should sufficiently depress the prices, even in this year, to bring the farmer one weighty stride nearer his ruin.

How can so terrible a competition be withstood? By means of grain duties? The grain-exporting States cannot expect much of them. What good would the duties do them, since it is not so much the object of these States to keep at a distance foreign grain as to get rid of their own surplus.

The Austrian, and above all the Hungarian, farmer is ruined as soon as the Austro-Hungarian grain report ceases; it would not even be necessary for the transmarine grain to compete in Austro-Hungary.

Besides, France and England are not thinking of making grain duties so high as to protect domestic producers, since that would ruin their industries. There remains, then, of the larger States only Germany in which salvation might be expected. But even in Germany they can no longer serve the farmer. Protective tariffs may have the effect of permitting the quiet development, free from extraneous disturbance of a crude industry, but they cannot operate against over-production. Protective tariffs have never yet had the power to check the downward movement of prices. For in-

* This is a serious understatement of the production of the United States.—STATISTICIAN.

stance, the prices of the following articles, upon which there was in Austria a high protective tariff, fell quite as much as in other countries where they were not protected:

From 1874 to 1878 iron ore fell from 6 to 2.10 florins, pig-iron from 11 to 5.60 florins, ordinary cotton yarn from about 200 to 126 florins, cotton goods from 200 to 128 florins, linen goods from 140 to 105 florins, glass from 40 to 24 florins, &c.

Truly, it would be a very high protective tariff that, in the face of the great overproduction of grain, as shown above, would keep transmarine grain from the German market, particularly as the cost of production in Germany as compared with that in America is very great. According to an estimate before us, it cost 8.92 marks to raise a zentner of rye in 1876, near Leipzig, in one of the best regions of Germany; and this, too, in a good year when there was a yield of 15.4 Berlin scheffel (bushel) per Prussian morgen (acre); on an average the yield is 12 scheffel per morgen, the cost of production 10.88 marks per zentner. In bad years the price of rye rises, but the cost of production is proportionately high. In Eastern Germany it costs less to raise rye, about 7.5 marks per zentner; but the average price during the latter years was only 5.5 marks. The protective tariff should therefore be high enough to raise the price of rye by from 30 to 40 per cent. that the farmer might make expenses.

But could the industries bear such a weight? If capital is strong enough, or rather if the laborer is too weak, so that the wages are not raised accordingly, then the laborer will retrench still further in consumption, if this is still possible, or he will starve, if in his desperation he shall not attempt by unlawful means to get his bread, or if the money wages should become higher the actual wages would, however, remain the same.

By such means as grain tariffs so mighty and revolutionary a movement is called forth by transmarine competition cannot be banished. There are those, and their number is increasing, that think nothing further can be done but to leave the supplying of Europe with cereals to America; that the European farmer must do as the Italian farmer did before him, *i. e.*, pass from agriculture over to stock raising. It is only the legal representatives of the large estates that talk after this fashion, for the transition to feed growing will be the death blow to the small farmer, particularly in places where there are no parish meadows.

The proprietors of large estates in all countries of Western Europe are about to follow the advice given. It was first followed in England, where the imports of grain since the repeal of the corn laws have offered uncomfortable competition. During the nine years from 1870 to 1879 the agricultural area of Great Britain became less by 400,000 acres, while the areas of meadows and pastures increased 6,800,000 acres.

M. Kautsky, in seeking a remedy, considers at some length the advantages of competing countries in "immeasurable tracts of virgin and exceedingly fertile soil" and the disadvantages under which European countries labor. One of these is the assumption of a constantly deteriorating climate, fluctuating from extremes of moisture and drought, due to the destruction of forests, the diminution of areas of natural-water reservoirs, swamps, lakes, &c. He quotes the Austrian Social Science Monthly as to Hungary:

The climate of Hungary is not constant like that of England. Hungary suffers from the extremes of dry and wet years, and therefore is obliged to deplore many a crop failure. In the seventy-five years preceding 1864 there were twenty-two crop failures, nineteen from drought and three from excessive wet and cold. The shortage in the crop of 1863 was estimated to be 126,000,000 gulden. Crop failures are becoming more and more frequent; while the crop of Hungary and Subenbürgen was, in 1868, 86,000,000 metzen, it fell to 75,000,000 in 1870, 51,000 in 1871, to 46,000,000 in 1872, and to 36,000 in 1873. The frequency of the dry years is attributable to two causes, regulation of river courses and insufficient forest area.

He canvasses the comparative cost of producing wheat in America and Europe, and concludes that in this country the cost is 5.65 francs per hectoliter, and in France 18.42 francs. He makes the cost per day for feed in fattening an ox 1.03 francs in France and in Texas only seven-hundredths of a franc; for a sheep, twelve-hundredths of a franc in France and two-hundredths in Texas. With this advantage the Texan farmer must grow wealthy, while the French farmer is consuming his capital. Another advantage in America is political. While in Europe three million able-bodied men are taken from the plow and workshops into the military service, "the land forces of the United States amount to only 27,500 men. While in Germany one per cent. of the population do military duty, only one-hundredth of one per cent. serve as soldiers in the United States." In the grain region the American farmer pays at the most 1 mark taxes per hectare, in many States (as in Texas) only 28 pfennigs per hectare; the Austrian farmer, on the other hand, at least 5 marks, and the French farmer 20 marks. Among other advantages he mentions the homestead laws and improved transportation facilities, by land and sea. He notes the fact that iron supplemented wood in ship construction, and now steel is taking the place of iron; that vessels are built longer and longer; that instead of 1,500 to 1,800 tons, they now measure 5,000 tons, without increasing the number of men required for handling the freight. He considers the question of a remedy in the following words:

There are two ways in which transmarine grain competition can be combatted: either it must be made more expensive or the expenses of grain production in Europe must be reduced. There is no third way why free competition lasts. Making transmarine provisions more expensive is quite simple—we need but lay a duty on them. But, as we have shown, such artificial appreciation will operate in favor of the Government only. We must therefore endeavor to enable the European farmer to produce as cheaply as the American does. Reduction in the costs of production—that is the solution of the agrarian question. But it cannot be solved by reducing the wages of labor; some would think that would be like the logic of the man who opened his main artery in order to feed himself with the blood.

Above we mentioned the cheapness of transportation. Why cannot we effect what the grangers have done only in another way? Why not nationalize the railroads? It is absolutely necessary to reduce our standing army; then the national debt could be paid off. Yet, more heavily than the interest of the national debt, the high farm rents oppress the European farmer.

The State must enable the farmer to pass from his present system of petty farming to improved farming on a larger scale. This can be best accomplished by reviving suitably to present circumstances the old system of parish property. The State would have to furnish the land stocked and equipped on the most improved plan. The management to be left to a man elected by the parishioners, who is a scientifically educated agronomist authorized by the Government. Every parishioner would be obliged to work for a certain number of days in the year on the parish farm. The proceeds of the property would go toward paying State and parish taxes, thus saving the farmer a cash outlay. The farmer would certainly much prefer to pay his taxes in work to paying in cash. If there is a surplus over all expenses in the property, that surplus is divided equally among the parishioners. By this arrangement the poorest would be benefitted most and the rich would suffer no loss.

In order that our climate may be improved, the woods must become national

property. Of course we do not mean that the Government shall have any other control over the woods, as well as over railroads, than to operate for the public weal.

Now as to improving the productiveness of the soil without great expense; and this is the most difficult problem. How can the cheapest manure be obtained? The larger towns and cities annually furnish great quantities of manure; but this redounds to the benefit of their immediate neighborhoods, since transportation increases too much the cost of manure. Measures must therefore be devised by which the products of the soil can be consumed nearer the destination of the manure—in other words: The industries must be transferred to the flat country. That this, in conjunction with the other measures proposed, would check American competition is evident. This manure, now washed into the rivers, and serving no purpose except to make the water impure, would raise the yield to such an extent that American exhaustive farming could be sharply competed with, particularly since this measure would result in permanent benefit, enriching the soil without loss, since the soluble mineral matters are given back. In the mean time American agriculture will, after one or two generations, be ruined by the exhaustion of the soil.

Only, then, when all that we have demanded—the removal of the industries to the flat country, the nationalization of railroads and forests, the general establishment of parish properties, the reduction of the army budget and of the interest on hypothetical lands—only then will the surplus of America no longer effect the ruin of European agriculture, but, in case of short crops, cover the deficit and convert a curse into a blessing. But if lazy routine and narrow-minded private interest should prevent these far-reaching, radical measures, if those in power should be content with destroying, by means of grain duties, the industries which consume the products of agriculture, or if they should, in order to get cheap bread for the industrial workmen and to get low wages for the industries, expose to *laisser faire* the best markets of the industries, *i. e.*, agriculture, then European agriculture will be destroyed, Europe will become a stony waste like Sicily and Asia Minor, or be covered over with underbrush.

GATELLIER ON CHEAP FERTILIZATION.

A treatise of E. Gatellier considers the effect of competition on French agriculture, particularly the means of successfully meeting it, and especially by cheapening the cost of fertilizers essential to profitable yields. He says:

Seeing the disastrous situation in which our wheat interests are placed by the American wheat competition, I have been led to inquire into the reasons why Americans raise wheat cheaper than we do. I have discovered that the principal of these reasons is that while with us there is an indispensable outlay for fertilizers they can be dispensed with in the virgin soil of the New World. Therefore, if we could diminish the expense of fertilizers without impairing our crops, and at the same time aim to obtain the maximum of production, the consequence would naturally be a very sensible improvement in our situation. For that purpose I have proposed to the agricultural society of Meaux to investigate the prices for farm-yard manure.

With regard to expenses in proportion to the harvest, such as harvesting, thrashing, housing, and taking to market, there is not a great difference between ours and those of America, taking into consideration the quantities harvested on each side. However, it may be possible to reduce to some degree our expense of harvesting by making use of improved reapers.

As to the general expenses, rent, plowing, sowing, we find that the costs of cultivation are less in America because plowing is not so deep, and horses, as well as their

feed, are cheaper; and sowing is less expensive in America because wheat is not nearly so dear as in France.

There is a great difference between America and our country with regard to rents and taxes. But rents depend upon the supply and the demand. It is well understood that if our farmers cannot compete with American farmers the rents will fall; but it is not in this way that we look for a fall, as that would be injurious to our national wealth. As to taxes, if there is a great difference it is because America draws from duties, and not from the land, the resources necessary to defray public expenses, whilst with us the government, and especially the departments and the counties, draw a part of their resources from taxes levied on the soil, about 15 francs per hectare. It is for the officers of the government, and not for the farmers, to cause a reduction in this respect.

Now, as to the question of manure. On all other points we can only obtain a slight difference, hardly 10 francs* per hectare. In the costs of harvesting, it remains to be seen whether, in the way of reducing the costs of fertilizers—with which Americans have nothing to do, at least not for some time to come—we may accomplish anything worthy of mention.

The question is not to diminish in fertilizers the quantity of elements necessary to the average crop we have taken as a standard, but to study wherein the price of manure can be reduced without depriving the soil of an adequate fertilizer.

In the above account there are mentioned the expense of fertilizers as amounting to 150 francs for farm-yard manure, at the rate of 11 francs for 1,000 kilos (one ton), and an expense of complementary fertilizers of 85 francs. The complementary fertilizers used are composed of azotic and phosphatic elements.

By dividing into soles† as frequently as possible artificial meadows, such as lucern, clover, or fenugreek, the use of azote (which is the dearest of all these elements) could be dispensed with, and phosphate used altogether. This would save 20 francs per hectare of wheat. The question now is to find how we could save at least 30 francs on the cost of farm-yard manure to reach the 60 francs necessary as a reduction of expenses per hectare to compete with America.

CONCLUSIONS.

The method I advise from the economical production of wheat has for its initial purpose the normal culture of our country, that is, the use of dung and complementary manures. The best and cheapest manure is farm-yard dung. It must come from animals of various kinds, according to regions, selected so that the expense of their food and keep be as low as possible and their returns most remunerative. Complementary manures depend on the nature of the soil, the composition of the dung, and upon previous crops.

This method is based upon two principles: 1st, direct or indirect absorption of azotic air by leguminious plants; and, 2d, the equilibrium to be established between the azotic and mineral elements liable to be at once assimilated by plants, so as to avoid the excess of the azotic elements which causes falling down, heating in the stack, and even mildew.

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* Nearly 80 cents per acre.

† Soles—assolement—a piece of ground upon which is sown wheat the first year, oats, or barley the next, and which lies fallow the third year for the purpose of obtaining a certain rotation of crops.

PLOWS AND PLOWING.*

Europeans comprehend neither the enormous extension of our fertile plains nor the nature of our inexhaustible fertile prairie soil. All their predictions and calculations on the durability of those fertile plains, in spite of the "Raubbau," are futile. All that the American farmer needs is an implement with which he can prepare more land than with the plow. If that important problem is solved, the United States will long be able to supply the world with food.

I will endeavor to show the possibility of accomplishing that object. To plow a large extent of land in the shortest space of time and with the least amount of manual labor has always been the great desideratum of the farmers, especially in countries with a short planting season and scarcity of laborers.

Several attempts have been made of late to yoke the steam to the plow for the *lighter sort of plowing.* Various implements have been contrived to accomplish that important object, but all have failed, except the double plow in use in the Northwest to work the friable, light soil of the prairies; that implement makes only two furrows. It is costly, heavy, and requires much power to pull it. The farmers of the prairie lands require an implement which can do *at least five times* the work of a single-furrow plow.

There is no implement to work the soil with which does the work so well as the improved plow. It cuts a slice and turns it with the surface down. It exposes the soil to the influence of the atmosphere to prepare more food for the plants, which is indispensable for clay, lime or soils of a sandy nature. Such soils need deep plowing to bring fresh mineral substances to the surface, in order to increase the amount of plant food.

The prairie soil is not a soil composed of particles of disintegrated rocks; it is, on the contrary, an accumulation of the residue of decayed plants, a mass of vegetable mold, of which every particle is a complete manure for plants, containing all the necessary organic and inorganic substances in the most accessible form for the production of plants, and in great abundance. That soil requires no pulverization, no disintegration, no deep plowing; all it needs is to admit the air to aid in the decomposition of the carbon—to produce the powerful agent, carbonic acid, which can be accomplished by working that soil superficially with a lighter implement, less complicated and expensive than the plow.

When we examine the various implements which are used by the different nations of Europe, Asia, Africa, and America for cultivating the soil, we find that they differ widely from the improved plow, and that

* Prepared by Mr. Charles L. Fleischmann, a gentleman of liberal agricultaral education and enlarged experience and observation in Europe and America, after reading in the original some of the foregoing treatises on American competition.—[STATISTICIAN.

that implement is only used by very few, in comparison with the great mass of people over the whole world, and yet they cultivate the soil and supply their wants. For instance, in the eastern and northern provinces of Russia, there the *Zoche* is in general use; the same instrument is used in Poland, Finland, and in Siberia. In some parts of Germany, in Silesia, Mecklenburg, and some parts of Saxony, the farmers prefer the *Haaken* to the plow. In Spain, Italy, and in France we find the *Deutal*, a modification of the plow of the Romans. The Arabs use the Egyptian plow. The Hindoos, Chinese, and Japanese work the soil with implements which differ widely from our plow; yet we meet in Russia, in Algiers, in Egypt, and other parts of the world with crops which stand comparison with the best crops of Europe or America. Those primitive contrivances are of a simple construction, light in weight and draft.

Now, could not those implements undergo modifications so as to furnish a light kind of a plow, with which one man could accomplish *as much as five single plows can do?* Would not a prairie farmer at once increase his productions fivefold, which would not only be of the greatest importance to the farmers, but to the whole country at large, enabling the United States to triple its exports in grain and other productions, to furnish to the millions of people cheap food?

Another matter of great importance to the farmers of the Northwest is the suppression of weeds, which has its origin in the first place in the very cultivation of the wild prairies, which are impregnated with all kinds of seeds. The spongy sod prevents their germination, but so soon as they are brought in contact with the soil they sprout and grow luxuriantly, and dispute, by right of ancestry, the cultivated plants, and thus diminish the yield per acre, which becomes very perceptible after a few years. I have seen a field covered with ragweed in Illinois, which was so dense and luxuriant that the field looked like being purposely cultivated with that obnoxious plant. The diminution of the crops in the Northwest must not be ascribed to the prairie soil; it is caused by the increase of weeds alone. That soil is in a strata of the thickness of the finest paper, rich enough to produce a crop. How many crops can an inch of that soil produce, and how many more a foot, or many feet, in thickness, is easy to be calculated.

To keep the weeds under can only be done by an implement with which a large extent of land can be prepared for a summer crop in the shortest space of time, that leaves between the time of plowing and seeding, an interval long enough to enable the seeds of wheat to sprout; and a crop of weeds can be early destroyed by one harrowing.

THE VALUE OF THE CEREAL CROPS OF AUSTRO-HUNGARY.*

By Dr. F. X. Von Neumann-Spallart.

In several of the larger countries, as is well known, there have been regularly published for some decades, besides the quantitative results of the crops, estimates of their values according to the average market prices.† One of these countries is the United States, where, in addition to the estimates of the national wealth obtained from the decennial census, and of the amount of capital invested in agriculture, annual estimates of all crops are made. Of great value in the uncommonly instructive "Reports of the Commissioner of Agriculture," which have appeared regularly since 1861, is the report of the statistician. Among other comprehensive data, this report contains the estimated values of the six principal cereals, and of potatoes, tobacco, hay, cotton, and sugar. Still more detailed are the agricultural statistics of the Netherlands, reported since 1851 in the capital tabulations of the "Verslag Van den Landbouw." In this report one finds, besides the relative and absolute quantities of the cereal and leguminous plants, and even of the smallest agricultural products for commerce (such as canary and hemp seed), the average prices by provinces, and the total values estimated from these data.

In a similar manner, though less detailed, the Statistical Bureau of Sweden has, since the reorganization of the agricultural census (1874), published the annual values; and of the other states, France, the German Empire (since 1878), Russia, Norway, even Spain (during the years she takes the census), publish the salient data, from which the crop values may be approximately estimated.

In view of the results of the practical method of other countries in officially getting statistics, it would hardly seem necessary to offer any justification for an effort to obtain likewise in Austro-Hungary more definite data in agriculture. The objections that might be made could easily be overcome. It may be said, in opposition to these estimates, that there is still but a fluctuating basis to work upon, since materially different results would be gotten accordingly as the value of the productions of the soil is based upon the prices of a few large grain markets in a country, or upon the local prices regulated by the low quality of the productions entering into immediate consumption; it may be argued that the so-called average price of grain and of other products of the soil, is not the geometrical average value, but simply the arithmetical average, since it is estimated without regard to the ever important factor quantity; it may be further argued that by far the greater part of agricultural production is consumed by the producers, and that it is a mistake to use the market prices in getting the value of the crops, because there are contained in these prices the cost of hauling to the market, and other necessary expenses; and finally it may be objected, that as the basis of agricultural statistics is uncertain, all deductions and analyses of the data may be regarded as too premature. All these, and other objections, can easily be controverted if we do not simply regard the negation as justified, but work on the line of positivism.

The heterogeneous character of the method for gaining data cannot be conceded as a serious objection; otherwise most of the current and comparative statistics would have to be abandoned. How different, until the decisions of the St. Petersburg Congress, were the methods even in the science of demography! how divergent still in some of the most important details! and yet science regards the demographic data as sufficient for the exactest investigation. How unlike each other in method and ex-

*This article, which is translated from the German, is written by one of the first authorities in statistics in Europe, known and appreciated throughout the world.

†The values of crops in the reports of this Department are the local or farm values, and not the commercial values of shipping centers.—Statistician.

actness are the results obtained in the domain of the morality statistics of different countries, particularly of the statistics of apparently capricious acts, of criminal cases, &c.; and yet how many inductive investigations, upon this basis, *literature shows*. Or, finally, in view of the facts of material culture, how multifarious the sources from which are compiled from year to year the commercial prices; not only does every State have a special unit of value, but even in different sections of the same State, great changes often take place in short periods of time, and changes in custom laws, in tariffs, and in the direction of revenue affairs, cause different classifications, which ought to exclude them from all comparative tabulations with former, preceding years; and yet, there is scarcely another branch of statistics upon which are based the justifying reasons for incisive legislative measures, and upon which are based the principles of political economy, to so great an extent as upon the movements of commerce.

With equal right may we demand more comprehensive agricultural statistics, in that value is set upon the annual production. Not only if a certain method is followed for a number of years will the relative accuracy of comparative data be improved, but even the unavoidable errors made in the beginning will have the beneficial effect of calling attention to the possible mistakes in the census; and criticism thus evoked will not only do more to obtain more nearly correct estimates of values, but also of quantity, than are possible by the present system. Quite likely the benefits of such reports will be much greater than heretofore, because in every quarter, as well for the purpose of theoretically following the course of certain events as for practical purposes of government, more accurate exhibitions of the influence of the crops will be looked for.

We, therefore, *must express our great pleasure* in seeing that the Imperio-Royal Ministry of Agriculture has found occasion in the statistical Year Book for 1881, to make an attempt to estimate the value of the crop, thus following the example set by the above mentioned countries.

In the following pages I have made, with especial reference to their official sources, retrospective comparisons; I have combined with the new Austrian report, the data obtained from general averages of the Hungarian crops furnished me at my request by the chief of the Royal Hungarian Statistical Bureau (he not assuming any official responsibility therefor); and I have added my own estimate for the year 1882.

Approximate estimate of the crops for 1882.

[000 left off; that is, 1,204=1,204,000.]

Countries.	Wheat.		Rye.		Barley.	
	Hectoliters.	Florins.	Hectoliters.	Florins.	Hectoliters.	Florins.
I.—Austria.						
Lower Austria	1,204	10,342	3,068	18,408	1,081	5,470
Upper Austria	797	6,886	1,660	10,607	772	4,184
Salzburg	147	1,305	202	1,107	25	124
Steiermark	842	7,477	1,042	5,710	255	1,257
Kärnten	261	2,205	683	4,132	220	1,142
Krain	248	2,153	189	1,079	222	948
Küstenland	315	2,734	57	326	153	653
Tyrol and Vorarlberg	274	2,984	483	4,419	188	1,316
Böhmen	4,939	45,093	9,825	65,042	5,878	31,565
Mähren	1,376	12,384	4,268	27,679	2,653	14,883
Schlesien	189	1,478	661	4,217	415	2,166
Galizien	4,195	29,281	6,340	26,691	4,326	13,800
Bukowina	316	2,001	485	1,989	639	2,045
Dalmatien	379	3,289	49	280	434	1,843
Total	15,482	129,612	29,012	171,686	17,261	81.396
II.—Hungary	46,495	417,712	17,786	99,501	20,286	93,347
Totals	61,977	547,324	46,798	271,187	37,547	174,743

Approximate estimates of the crops for 1882—Continued.

Countries.	Oats.		Corn.		Meslin.*		Altogether.
	Hectoliters.	Florins.	Hectoliters.	Florins.	Hectoliters.	Florins.	Florins.
I.—Austria.							
Lower Austria	2,952	11,218	107	636	.....	.....	46,074
Upper Austria	1,905	5,772	.....	.....	.....	.....	27,449
Salzburg	218	687	.....	.....	.....	.....	3,223
Steiermark	1,547	4,873	1,128	6,384	.....	.....	25,701
Kärnten	772	2,640	180	986	.....	.....	11,105
Krain	395	1,296	249	1,506	.....	.....	6,982
Küstenland	65	213	387	2,496	.....	.....	6,422
Tyrol and Vorarlberg	142	675	415	3,445	.....	.....	12,839
Böhmen	9,941	35,986	.....	.....	.....	.....	177,686
Möhren	4,221	15,111	141	963	.....	.....	71,020
Schlesien	1,133	3,966	.....	.....	.....	.....	11,827
Galizien	8,173	19,615	1,204	7,055	.....	.....	96,442
Bukowina	772	1,567	1,355	5,447	.....	.....	13,049
Dalmatien	46	151	540	3,483	.....	.....	9,046
Totals	32,282	103,770	5,706	32,401	.....	.....	518,865
II.—Hungary	23,787	65,401	37,891	207,762	3,692	25,954	909,677
Totals	56,069	169,171	43,597	240,163	3,692	25,954	1,428,542

* So far unknown.

Note.—A hectoliter is equivalent to 2.83782 bushels. An Austrian florin is 48.03 cents.

By adding the crop of millet and buckwheat in Hungary, valued at 6,600,000 gulden, the total value of the cereal production of Austro-Hungary for 1882 may be given in round numbers at 1,435,000,000 gulden.

In comparing with the crops of former years that of 1882, our monarchy was blessed not only quantitatively, but its value, according to the local market prices, was far greater. The correctness of this assertion is confirmed by the export trade. The year 1882 shows a greater amount of sales of grain, flour, and other mill products than any other year; for while from sixteen to seventeen million metrecentners were annually exported and imported in 1882, 20,115,000 metrecentners of grain and mill products crossed the boundary line. The value of the imports was 68,400,000 gulden, that of the exports 170,800,000 gulden, so that Austro-Hungary gained a surplus of 102,400,000 gulden out of the grain trade for 1882. According to trade reports and the monthly reports of the trade movement, published in the "Austria," it is certain that a considerable portion of the 1882 crop was sold, and will be sold in 1883. The difference in the value of the crop of 1882, estimated at 200,000,000 gulden, and those of 1880 and 1881 will not be very much reduced by the exports of grain and flour between July, 1882, and the end of June, 1883.

TRANSPORTATION RATES.

FREIGHT RATES—RAILROAD COMPANIES.

SPECIAL JOINT NOTICE.

LIVE STOCK AND DRESSED BEEF.

[In cents per 100 pounds.]

Chicago to—	Cattle.	Hogs.	Horses, mules, and sheep.	Dressed beef, minimum weight 20,000 pounds.
Erie	22	16	25	27½
Dunkirk	25	17	27½	30
Buffalo, Suspension Bridge, Pittsburgh, Wheeling, and Bellaire	32½	17½	32½	35
Albany	48	28	48	51
Baltimore	57	27	57	61
Philadelphia	58	28	58	62
New York	60	30	60	64
Boston	60	30	60	64

All live stock will be billed subject to the following minimum weights. Excess will be charged for at same rate per 100 pounds:

		Pounds.
Cattle	per car	19,000
Horses	do	20,000
Hogs, double-deck car	do	22,000
Hogs, single-deck car	do	16,000
Sheep, double-deck car	do	18,000
Sheep, single-deck car	do	14,000

All dressed beef will be billed subject to a minimum weight of 20,000 pounds. Excess will be charged for at the same rate per 100 pounds.

Joint rates of transportation on live stock, lumber, and tobacco.

[In cents per 100 pounds.]

From East Saint Louis to—	Horses, mules, and sheep.	Cattle.	Hogs.	Lumber, lath, and shingles, car-loads.	Tobacco, unmanufactured, and tobacco-stems, in hhds. or cases.
Boston	65	65	35	40	48
New York	65	65	35	35	43
Philadelphia	63	63	33	33	41
Baltimore	62	62	32	32	40
Albany	53	53	33	32	38
Pittsburgh	35	35	20	20	24
Dunkirk	35	35	20	20	.....
Buffalo	35	35	20	20	24
Cleveland, Sandusky, Detroit, Toledo, and Columbus	25	25	18	.....	.....
Dayton and Cincinnati	20	20	16	.....	.....
Louisville	21	21	18	.....	.....
Indianapolis	14	14	10	.....	.....

The minimum weights of live stock are as follows:

Horses, cattle, and mules, 20,000 pounds; sheep, double-deck, 18,000, single deck, 14,000 pounds; hogs, double deck, 22,000, single deck, 16,000 pounds.

All excess will be charged at proportionate rates.

Lumber, &c., when loaded in cars of less than 33 feet, the minimum weight of a car load will be 20,000 pounds; and when loaded in 33-foot cars, the minimum weight will be 24,000 pounds.

When more than the minimum weight is loaded, actual weight will be charged for.

PENNSYLVANIA RAILROAD COMPANY.

Articles.	Philadelphia to—				New York to—			
	Chicago.	East Saint Louis.	Indianapolis.	Cincinnati.	Chicago.	East Saint Louis.	Indianapolis.	Cincinnati.
Agricultural implements, C. L., released.per 100 lbs	$0 33	$0 40	$0 31	$0 30	$0 35	$0 42	$0 33	$0 32
Bacon, in barrels or casks ....do....	33	40	31	30	35	42	33	32
Beans:								
In bags....do...	43	52	41	39	45	54	43	41
In barrels ....do....	33	40	31	30	35	42	33	32
Beef, packed, salted, in casks....do....	33	40	31	30	35	42	33	32
Butter, in tubs or firkins....do....	54	65	51	49	60	71	57	55
Cheese, in boxes or casks....do....	54	65	51	49	60	71	57	55
Fertilizers, N. O. S....do....	33	40	31	30	35	42	33	32
Flour, C. L ....do....	33	40	31	30	35	42	33	32
Grain, C. L ....do....	33	40	31	30	35	42	33	32
Guano, packed ....do....	33	40	31	30	35	42	33	32
Hams, in casks or barrels ....do....	33	40	31	30	35	42	33	32
Hides:								
Dry, pressed in bales....do....	54	65	51	49	60	71	57	55
Dry, loose ....do....	69	83	65	64	75	89	71	70
Green ....do...	43	52	41	39	45	54	43	41
Hops ....do....	54	65	51	49	60	71	57	55
Lard, in barrels or tierces....do....	33	40	31	30	35	42	33	32
*Cattle, C. L., 16,000 pounds ....do....	69	83	65	64	75	89	71	70
*Hogs, C. L., 16,000 pounds ....do....	69	83	65	64	75	89	71	70
*Horses and mules, C. L., 16,000 pounds....do....	69	83	65	64	75	89	71	70
*Sheep, C. L., 16,000 pounds ....do....	69	83	65	64	75	89	71	70
Lumber (sawed pine and oak), C. L....do....	33	40	31	30	35	42	33	32
Meal:								
In bags....do....	43	52	41	39	45	54	43	41
In barrels ....do....	33	40	31	30	35	42	33	32
Pork, packed in barrels and salted ....do....	33	40	31	30	35	42	33	32
Potatoes, O. R., C. L ....do....	33	40	31	30	35	42	33	32
Potatoes, O. R., L. C. L....do....	43	52	41	39	45	54	43	41
Salt, in sacks or barrels ....do....	33	40	31	30	35	42	33	32
Tobacco, unmanufactured, in hogsheads or boxes, per 100 pounds....	43	52	41	39	45	54	43	41
Wool:								
Domestic, in sacks....per 100 pounds..	1 03½	1 24½	97½	96	1 12½	1 33½	1 06½	1 05
Foreign, pressed in bales....do....	43	52	41	39	45	54	43	41

* Man in charge, free.

C. L.—Car-load.
L. C. L.—Less than car-load.
O. R.—Owners' risk.
N. O. S.—Not otherwise specified.

FREIGHT RATES—RAILROAD COMPANIES.

NEW YORK, CHICAGO AND SAINT LOUIS RAILWAY.

Articles.	Chicago to—						Chicago from—					
	Fort Wayne.	Cleveland.	Buffalo.	New York.	Boston.	Philadelphia.	Fort Wayne.	Cleveland.	Buffalo.	New York.	Boston.	Philadelphia.
Agricultural implements:												
C. L ..... per 100 lbs..	$0 12½	$0 15	$0 25	$0 45	$0 50	$0 43	$0 10	$0 14	$0 15	$0 35	$0 35	$0 33
O. R., C. L ..... do...	12½	15	25	45	50	43	10	14	15	35	35	33
Bacon, in boxes or casks ..... do...	18	20	17½	30	35	28	12½	17	17½	35	35	33
Beans, in bags or barrels ..... do...	12½	15	17½	30	35	28	10	14	15	35	35	33
Beef, packed ..... do...	18	20	17½	30	35	28	12½	17	17½	35	35	33
Butter, in tubs or firkins ..... do...	25	40	38	70	75	68	25	35	35	60	60	54
Cheese, in boxes or casks ..... do...	20	30	32½	60	65	58	20	25	25	60	60	54
Coal, C. L ..... do...	10	12½	.....	.....	.....	.....	9	12	12½	.....	.....	.....
Eggs, packed, O. R ..... do...	18	20	38	70	75	68	12½	17	17½	60	60	54
Fertilizers, N. O. S ..... do...	10	12½	15	25	30	23	9	12	9	35	35	33
Flour, C. L ..... do...	10	10	15	25	30	23	9	12	12½	35	35	33
Grain, C. L ..... do...	10	10	15	25	30	23	9	12	12½	35	35	33
Guano, packed ..... do...	18	20	25	45	50	43	12½	17	17½	35	35	33
Hams, in boxes or barrels ..... do...	18	20	17½	30	35	28	12½	17	17½	35	35	33
Hay, pressed, in bales:												
O. R ..... do...	30	50	38	70	75	68	30	45	40	.....	.....	.....
O. R., C. L ..... do...	10	12½	15	25	30	23	9	12	12½	.....	.....	.....
Hides:												
Dry, pressed in bales ..... do...	25	40	47½	85	95	83	25	35	35	35	35	33
Dry, loose ..... do...	45	75	82½	1 50	1 65	1 47	45	67½	60	75	75	69
Green, C. L ..... do...	12½	15	17½	30	35	28	15	14	15	35	35	33
Hops ..... do...	30	50	47½	85	95	83	30	45	40	60	60	34
Hops, C. L of 10,000 pounds or over ..... do...	20	30	47½	85	95	83	20	25	25	60	60	34
Lard, in barrels or kegs ..... do...	12½	15	17½	30	35	28	10	14	15	35	35	33
Cattle, C. L ..... do...	18	20	22½	60	60	58	12½	17	17½	.....	.....	.....
Hogs, C. L ..... do...	18	20	17½	30	30	28	12½	17	17½	.....	.....	.....
Horses and mules, C. L ..... do...	18	20	32½	60	60	58	12½	17	17½	.....	.....	.....
Sheep, C. L ..... do...	18	20	27½	60	60	58	12½	17	17½	.....	.....	.....
Lumber:												
C. L ..... do...	12½	14	17½	30	35	28	19	12	12½	.....	.....	.....
L. C. L ..... do...	18	20	25	45	50	43	12½	17	17½	35	35	33
Meal, in bags or barrels ..... do...	18	20	17½	30	35	28	12½	17	17½	45	45	43
Pork, , packed ..... do...	18	20	17½	30	35	28	12½	17	17½	35	35	33

C. L.—Car-load. L. C. L.—Less than car-load. O. R.—Owners' risk. N. O. S.—Not otherwise specified.

CHICAGO, SAINT LOUIS AND PITTSBURGH RAILROAD.

[Per 100 pounds.]

From Chicago to—	Grain, in bulk, minimum weight, 24,000 pounds, C. L.	Grain, in bulk, less than 24,000 pounds, more than 10,000 pounds.	Cheese, in boxes or casks.	Bacon, packed.	Butter and oleomargarine.	Dressed beef, C. L. of 20,000 pounds.	Beef, in barrels or tierces.	Hides, dry, pressed in bales, L. C. L.	Hides, green, beef and calf, in bundles, C. L.	Flour, in barrels, 125 barrels and over.	Flour, in barrels, less than 125 barrels.	Lumber, staves, headings, &c.	Tobacco, unmanufactured, and tobacco stems, in hogsheads, or cases.
Boston, Mass	$0 30	$0 35	$0 65	$0 35	$0 75	$0 64	$0 35	$0 95	$0 35	$0 30	$0 35	$0 35	$0 42½
Hartford, Conn	30	35	65	35	75	64	35	95	35	30	35	35	42½
Providence, R. I	30	35	65	35	75	64	35	95	35	30	35	35	42½
Nashua, N. H	30	35	65	35	75	64	35	95	35	30	35	35	42½
New York and Jersey City	25	30	60	30	70	64	30	85	30	25	30	30	37½
Philadelphia, Pa	23	28	58	28	68	62	28	83	28	23	28	28	35½
Harrisburg, Pa	23	28	58	28	68	62	28	83	28	23	28	28	35½
Wilmington, Del	23	28	58	28	68	62	28	83	28	23	28	28	35½
Baltimore, Md	22	27	57	27	67	61	27	82	27	22	27	27	34½
Washington, D. C	22	27	57	27	67	61	27	82	27	22	27	27	34½
Scranton, Pa	28	33	63	33	73	.....	33	88	33	28	33	33	39½
Pittsburgh, Pa	15	17½	32½	17½	38	35	17½	47½	17½	15	17½	17½	21
Washington (Washington County), Pa	20	22½	37½	22½	48	40	22½	57½	22½	20	22½	22½	26
Wheeling, W. Va	15	17½	32½	17½	38	35	17½	47½	17½	15	17½	17½	21
Bridgeport, Ohio, and Bellaire, Ohio	15	17½	32½	17½	38	35	17½	47½	17½	15	17½	17½	21
Salamanca, N. Y	15	17½	32½	17½	38	35	17½	47½	17½	15	17½	17½	21
Jamestown, N. Y	15	17½	32½	17½	38	35	17½	47½	17½	15	17½	17½	21
Alexandria, Va	26	31	61	31	71	.....	31	86	31	26	31	31	.....
Warren, Pa	17	19½	35	19½	42	.....	19½	52½	19½	17	19½	19½	.....
Irvington, Pa	17	19½	35	19½	42	.....	19½	52½	19½	17	19½	19½	.....
Corry, Pa	15	17½	32½	17½	38	.....	17½	47½	17½	15	17½	17½	.....
Union City, Pa	15	17½	32½	17½	38	.....	17½	47½	17½	15	17½	17½	.....

FREIGHT RATES—RAILROAD COMPANIES.

CHICAGO, ROCK ISLAND AND PACIFIC RAILWAY.

Articles.	Chicago to—							Chicago from—						
	Ottawa.	Davenport.	Atchison.	Leavenworth.	Kansas City.	Des Moines.	Council Bluffs.	Ottawa.	Davenport.	Atchison.	Leavenworth.	Kansas City.	Des Moines.	Council Bluffs.
Agricultural implements, O. R., C. L. per 100 lbs	$0 12½	$0 19	$0 37½	$0 37½	$0 37½	$0 35	$0 37½	$0 12½	$0 19	$0 37½	$0 37½	$0 37½	$0 35	$0 37½
Bacon, in boxes or casks do	14 8/10	17 6/10	28	28	28	30	28	14 8/10	17 6/10	30	30	30	30	30
Beans, in bags or barrels do	6	14	28	28	28	30	28	6	14	28	28	28	30	28
Beef, packed do	14 8/10	17 6/10	28	28	28	30	28	14 8/10	17 6/10	30	30	30	30	30
Butter, in tubs or firkins do	7	12	23	23	23	20	23	7	12	23	23	23	20	23
Cheese, in boxes or casks do	14 8/10	17 6/10	32	32	32	35	32	14 8/10	17 6/10	32	32	32	35	32
Coal, hard, C. L per ton	1 40	2 40	3 45	3 45	3 45	4 00	3 45	1 40	2 40	4 60	4 60	4 60	4 00	4 60
Eggs, packed, O. R per 100 lbs	18½	22	32	32	32	35	32	18½	22	32	32	32	35	32
Fertilizers, N. O. S do	7	12	23	23	23	20	23	7	12	23	23	23	20	23
Flour, C. L do	6	13	25	25	25	25	25	6	14	30	30	30	25	30
Grain (except wheat), C. L do	6	13	20	20	20	20	20	6	13	20	20	20	20	20
Guano, packed do	25 6/10	31	50	50	50	45	50	25 6/10	31	50	50	50	45	50
Hams, in boxes or barrels do	15 8/10	17 6/10	28	28	28	30	28	14 8/10	17 6/10	30	30	30	30	30
Hay, pressed in bales, O. R do	38	43	90	90	90	75	90	38	43	90	90	90	75	90
Hay, pressed in bales, O. R., C. L do	7	12	23	23	23	20	23	7	12	20	20	20	20	20
Hides, dry, pressed in bales do	31 5/10	36	75	75	75	60	75	31 5/10	36	50	50	50	60	50
Hides, dry, loose do	57	64½	1 35	1 35	1 35	1 12½	1 35	57	64½	1 35	1 35	1 35	1 12½	1 35
Hides, green, C. L do	12 5/10	19	32	32	32	35	32	12 5/10	19	30	30	30	35	30
Hops do	31 6/10	36	75	75	75	60	75	31 6/10	36	75	75	75	60	75
Cattle, C. L per car	21 00	32 00	65 00	65 00	65 00	60 00	65 00	21 00	32 00	70 00	70 00	70 00	60 00	70 00
Hogs, C. L do	21 00	32 00	65 00	65 00	65 00	60 00	65 00	21 00	32 00	70 00	70 00	70 00	60 00	70 00
Horses and mules, C. L do	24 15	36 00	67 50	67 50	67 50	72 00	67 50	24 15	36 00	80 00	80 00	80 00	72 00	80 00
Sheep, C. L do	18 00	28 00	45 00	45 00	45 00	49 00	45 00	18 00	28 00	55 00	55 00	55 00	49 00	55 00
Lumber, C. L per 100 lbs	8⅜	12	15	15	15	20	15	8⅜	12	22	22	22	20	22
Lumber, L. C. L do	25 6/10	31	50	50	50	45	50	25 6/10	31	50	50	50	45	50
Meal, in bags or barrels do	6	14	25	25	25	25	25	6	14	30	30	30	25	30
Pork, packed do	14 8/10	17 6/10	28	28	28	30	28	14 8/10	17 6/10	30	30	30	30	30
Potatoes, in sacks or barrels do	6	14	25	25	25	25	25	6	14	30	30	30	25	30
Salt, in sacks, barrels, or boxes do	*26 5/10	*35	21⅔	21⅔	21⅔	*57	21⅔	26 5/10	35	21⅔	21⅔	21⅔	*57	21⅔
Tobacco, unmanufactured, in hogsheads or boxes do	11 6/10	17	32	32	32	35	32	11 6/10	17	32	32	32	35	32
Wool do	12 5/10	19	90	90	90	75	90	12 5/10	19	55	55	55	75	55
Lard, in barrels or kegs do	14 8/10	17 6/10	28	28	28	30	28	14 8/10	17 6/10	30	30	30	30	30

*Per barrel.

C. L.—Car-load. L. C. L.—Less than car-load. O. R.—Owner's risk. N. O. S.—Not otherwise specified.

FREIGHT RATES—RAILROAD COMPANIES.

WABASH, SAINT LOUIS AND PACIFIC RAILROAD.

Articles.	From Saint Louis to—						From Cincinnati to—						From Indianapolis to—					
	Hartford, Portland, Providence, Boston, New Haven, Bridgeport, and Worcester.	New York.	Philadelphia.	Baltimore.	Albany, Troy, and Schenectady.	Buffalo, Dunkirk, Pittsburgh, and Wheeling.	Hartford, Portland, Providence, and Boston.	New York.	Philadelphia.	Baltimore.	Albany, Troy, and Schenectady.	Buffalo, Pittsburgh, and Wheeling.	Boston and Portland.	New York.	Philadelphia.	Baltimore.	Albany, Troy, and Schenectady.	Dunkirk.
Agricultural implements, C. L.....per 100 lbs.	$0 57	$0 52	$0 50	$0 49	$0 47	$0 28	$0 44	$0 39	$0 37	$0 36	$0 34	$0 22	$0 47	$0 42	$0 40	$0 39	$0 37	$0 23½
Bacon, packed.....do....	40	35	33	32	30	20	31	26	24	23	21	15½	33	28	26	25	23	16⅔
Beans:																		
L. C. L.....do....	57	52	50	49	47	28	44	39	37	36	34	22	47	42	40	39	37	23⅔
C. L.....do....	40	35	33	32	30	20	31	26	24	23	21	15½	33	28	26	25	23	16⅔
Beef:																		
Dressed.....do....	74	74	72	71	71	40	55⅓	55½	53½	52⅔	50½	27½						
In tierces and barrels.....do....	40	35	33	32	30	20	31	26	24	23	21	15½	33	28	26	25	23	16⅔
Butter.....do....	86	81	79	78	76	45	66	61	59	58	56	33	70	65	63	62	60	35
Cheese, in boxes or casks.....do....	74½	69½	67½	66½	64½	37½	57	52	50	49	47	28⅔	61	56	54	53	51	30½
Eggs (actual weight), O. R.....do....	86	81	79	78	76	45	66	61	59	58	56	33	70	65	63	62	60	35
Fertilizers:																		
L. C. L.....do....	57	52	50	49	47	28	44	39	37	36	34	22	47	42	40	39	27	23⅓
C. L.....do....	34	29	27	26	28	17	26⅔	21⅓	19½	18⅔	20½	13	28	23	21	20	22	14
Flour, 125 barrels and over, C. L.....per bbl.	68	58	54	52	56	34	53	43	39	37	41	26	56	46	42	40	44	28
Grain, bulk, C. L., minimum weight, 24,000 lbs. per 100 lbs.	34	29	27	26	28	17	26⅔	21⅓	19⅓	18⅓	20⅓	13	28	23	21	20	22	14
Hams, packed.....do....	40	35	33	32	30	20	31	26	24	23	21	15½	33	28	26	25	23	16½
Hay, pressed, in bales:																		
L. C. L.....do....	86	81	79	78	76	45	66	61	59	58	56	33	70	65	63	62	60	35
C. L.....do....	34	29	27	26	28	17	26½	21½	19½	18⅓	20½	13	28	23	21	20	22	14
Hides:																		
Dry, pressed in bales, L. C. L.....do....	1 08½	98⅓	96⅔	95⅓	88½	60	84	74	72	71	64	42	89	79	77	76	69	44⅓
Dry, loose, bundles and sacks.....do....	1 89	1 74	1 71	1 69½	1 59	1 12⅓	1 45⅓	1 30½	1 27½	1 26	1 15⅓	72⅔	1 54½	1 39⅓	1 36½	1 35	1 24⅓	77½
Beef and calf, green, in bundles, C. L.....do....	40	35	33	32	30	20	31	26	24	23	21	15⅓	33	28	26	25	23	16⅔
Hops.....do....	1 08½	98½	96½	95½	88½	60	84	74	72	71	64	42	89	79	77	76	69	44½

C. L.—Car-load. L. C. L.—Less than car-load. O. R.—Owners' risk. P. P.—Prepaid.

FREIGHT RATES—RAILROAD COMPANIES.

LAKE SHORE AND MICHIGAN SOUTHERN.

Articles.	Chicago to— New York.	Boston.	Philadelphia.	Baltimore.	Washington.
Agricultural implements, C. L.....per 100 pounds..	$0 45	$0 50	$0 43	$0 42	$0 42
Apples, green, C. L.....per barrel..	50	60	46	44	44
Bacon:					
In boxes or casks.....per 100 pounds..	30	35	28	27	27
In boxes or casks, C. L.....do....	30	35	28	27	27
Beans, C. L. (12 tons minimum weight).....do....	30	35	28	27	27
Beef:					
Salted in barrels (320 pounds per barrel).....do....	30	35	28	27	27
Salted in barrels (320 pounds per barrel), C. L.....do....	30	35	28	27	27
Butter:					
O. R., in wood.....do....	70	75	68	67	67
O. R., in wood, C. L.....do....	70	75	68	67	67
Cheese:					
In boxes or casks.....do....	60	65	58	57	57
In boxes or casks, C. L.....do....	60	65	58	57	57
Eggs:					
In cases or barrels.....do....	70	75	68	67	67
In cases or barrels, C. L.....do....	70	75	68	67	67
Fertilizers, C. L. (12 tons minimum weight).....do....	25	30	23	22	22
Grain, in bulk, C. L. (24,000 pounds).....do....	25	30	23	22	22
Hams:					
In boxes or barrels.....do....	30	35	28	27	27
In boxes or barrels, C. L.....do....	30	35	28	27	27
Hides:					
Dry, loose.....do....	1 50	1 65	1 48	1 47	1 47
Dry, loose, C. L.....do....	1 50	1 65	1 48	1 47	1 47
Green, in bundles.....do....	45	50	43	42	42
Green, in bundles, C. L. (12 tons min. weight).....do....	30	35	28	27	27
Horses, C. L. (20,000 pounds minimum weight).....do....	60	60	58	57	.....
Mules, C. L. (20,000 pounds minimum weight).....do....	60	60	58	57	.....
Cattle, C. L. (19,000 pounds minimum weight).....do....	60	60	58	57	.....
Sheep, C. L. (18,000 pounds minimum weight), D. D.....do....	60	60	58	57	.....
Hogs:					
Live, C. L. (22,000 pounds min. weight), D. D.....do....	30	30	28	27	.....
*Dressed, O. R., C. L. (10 tons minimum weight).....do....	64	64	62	61	61
Lard, in boxes or barrels, C. L.....do....	30	35	28	27	27
Lime, in casks, C. L. (12 tons minimum weight).....do....	25	30	23	22	22
Lumber, C. L.....do....	30	35	28	27	27
Meal, in bags or barrels, C. L. (12 tons min. weight).....do....	25	30	23	22	22
Pork, salted in barrels, C. L.....do....	30	35	28	27	27
Potatoes:					
Common, in bags or barrels, O. R. frost and decay, P. P., C. L.....per 100 pounds..	30	35	28	27	27
Sweet, O. R., C. L.....do....	45	50	43	42	42
†Poultry:					
Alive, in boxes or coops, L. C. L.....do....	2 00	2 20	1 98	1 97	1 97
Dressed, in boxes or barrels, O. R.....do....	85	95	83	82	82
Salt, in sacks, C. L.....do....	30	35	28	27	27
Tobacco, unmanufactured, in hogsheads.....do....	37½	42½	35½	34½	34½
Wool:					
In sacks.....do....	85	95	83	82	82
Machine, pressed in square bales.....do....	70	75	68	67	67
Machine, pressed in square bales, C. L. (10 tons minimum weight).....per 100 pounds..	60	65	58	57	57

*In refrigerator cars 5 cents extra. †Estimated weights.
D. D.—Double deck. C. L.—Car-load. L. C. L.—Less than car-load. O. R.—Owner's risk.
P. P.—Prepaid.

FREIGHT RATES—RAILROAD COMPANIES.

CHICAGO, BURLINGTON AND QUINCY RAILROAD.

Articles.	Chicago to—							Chicago from—						
	Burlington.	Quincy.	East Saint Louis.	Des Moines.	Omaha.	Atchison.	Kansas City.	Burlington.	Quincy.	East Saint Louis.	Des Moines.	Omaha.	Atchison.	Kansas City.
Agricultural implements, O. R., C. L.....per 100 lbs..	$0 21	$0 18 4/10	$0 15	$0 35	$0 37 1/2	$0 37 5/10	$0 37 5/10	$0 21	$0 18 4/10	$0 15	$0 35	$0 37 1/2	$0 37 1/2	$0 37 1/2
Bacon, in boxes or casks, C. L.....do....	20	21	12 1/2	30	28	28	28	20	21	12 1/2	30	28	28	28
Beans, in bags or barrels, C. L.....do....	20	12	12 1/2	30	28	28	28	20	12	12 1/2	30	28	28	28
Beef, packed, salted.....do....	20	21	12 1/2	30	28	28	28	20	21	12 1/2	30	28	28	28
Butter, in tubs or firkins, C. L.....do....	25	25 8/10	15	35	32	32	32	25	25 8/10	15	35	32	32	32
Cheese, in boxes or casks.....do....	50	46 2/10	30	60	75	75	75	50	46 2/10	30	60	75	75	75
Coal, C. L.....do....	10	10	8	20	18 35/100	18 35/100	18 35/100	10	10	8	20	23	23	23
Eggs, packed, O. R.....do....	50	46 2/10	30	60	75	75	75	50	46 2/10	30	60	75	75	75
Fertilizers, N. O. S., C. L.....do....	13	11 3/10	8	20	23	23	23	13	11 3/10	8	20	22	22	22
Flour, C. L.....per bbl..	25	31 7/10	20	50	60	60	60	25	31 7/10	20	50	60	60	60
Grain (except wheat), C. L.....per 100 lbs..	12	14 1/10	10	20	33	33	20	12	14 1/10	10	20	23	20	20
Guano, packed.....do....	40	36	25	45	50	50	50	40	36	25	45	50	50	50
Hams, in boxes or barrels.....do....	25	25 8/10	15	35	32	32	32	25	25 8/10	15	35	32	32	32
Hay:														
Pressed in bales, O. R.....do....	60	56 9/10	40	75	90	90	90	60	56 9/10	40	75	90	90	90
Pressed in bales, O. R., C. L.....do....	13	11 1/10	8	20	23	23	23	13	11 1/10	8	20	20	20	20
Hides:														
Dry, pressed in bales.....do....	50	46 2/10	30	60	75	75	75	50	46 2/10	30	60	50	50	50
Dry, loose.....do....	90	85 1/10	60	1 12 1/2	1 35	1 35	1 35	90	85 1/10	60	1 12 1/2	1 35	1 35	1 35
Green, C. L.....do....	25	18 4/10	15	35	32	32	32	25	18 4/10	15	35	30	25	25
Hops.....do....	50	46 2/10	30	60	75	75	75	50	46 2/10	30	60	75	75	75
Hops, C. L. of 10,000 pounds or over.....do..	50	46 2/10	30	60	75	75	75	50	46 2/10	30	60	75	75	75
Lard, in barrels or kegs.....do....	25	25 1/10	15	35	32	32	32	25	25 1/10	15	35	32	32	32
Cattle, C. L.....per car..	30 00	33 50	25 00	60 00	65 00	65 00	65 00	30 00	33 50	25 00	60 00	70 00	65 00	65 00
Hogs, C. L.....do....	30 00	33 50	25 00	60 00	65 00	65 00	65 00	30 00	33 50	25 00	60 00	70 00	65 00	45 00
Horses and mules, C. L.....do....	40 00	38 70	35 00	72 00	67 50	67 50	67 50	40 00	38 70	35 00	72 00	80 00	67 50	67 50
Sheep, C. L., S. D.....do....	30 00	28 80	25 00	49 00	45 00	45 00	45 00	30 00	28 80	25 00	49 00	55 00	45 00	45 00
Lumber:														
C. L.....per 100 lbs..	10	10	11	20	15	15	15	10	10	11	20	22	22	22
L. C. L.....do....	40	36	20	45	50	50	50	40	36	20	45	50	50	50
Meal, in bags or barrels.....do....	25	25 8/10	15	35	32	32	32	25	25 8/10	15	35	32	32	32
Pork, packed.....do....	25	25 8/10	15	35	32	32	32	25	25 8/10	15	35	32	32	32

C. L.—Car-load. L. C. L.—Less than car-load. O. R.—Owners' risk. N. O. S.—Not otherwise specified.

FREIGHT RATES—RAILROAD COMPANIES.

MICHIGAN CENTRAL RAILROAD.

Chicago to—	Grain, in bulk, C. L., per 100 lbs.	Grain, in bulk, L. C. L., per 100 lbs.*	Cheese, in boxes or casks, per 100 lbs.	Bacon, packed, per 100 lbs.	Butter and oleomargarine, per 100 lbs.	Beef, in barrels or tierces, per 100 lbs.	Hides, dry, pressed, in bales, L. C. L., per 100 lbs.	Hides, green, beef and calf, in bales, C. L., per 100 lbs.	Flour, in barrels, per bbl., C. L.	Lumber.	Tobacco, unmanufactured, and tobacco stems, in hogsheads or cases, per 100 lbs.
Albany, N. Y.	$0 24	$0 25	$0 55	$0 25	$0 65	$0 25	$0 75	$0 25	$0 48	$0 27	$0 32½
Black Rock, N. Y.	15	17½	32½	17½	38	17½	47½	17½	30	17½	21
Buffalo, N. Y.	15	17½	32½	17½	38	17½	47½	17½	30	17½	21
Baltimore, Md.	22	27	57	27	67	27	82	27	44	27	34½
Boston, Mass.	30	35	65	35	75	35	95	35	60	35	42½
Brantford, Ontario	15	17½	32½	17½	38	17½	47½	17½	30	17½	21
Bridgeport, Conn.	30	35	65	35	75	35	95	35	60	35	42½
Galt, Ontario	15	17½	32½	17½	38	17½	47½	17½	30	17½	21
Guelph, Ontario	15	17½	32½	17½	38	17½	47½	17½	30	17½	21
Hamilton, Ontario	15	17½	32½	17½	38	17½	47½	17½	30	17½	21
Halifax, Nova Scotia	40	45	80	45	90	45	1 10	45	80	45	.....
Hartford, Conn.	30	35	65	35	75	35	95	35	60	35	42½
Ingersoll, Ontario	15	17½	32½	17½	38	17½	47½	17½	30	17½	21
London, Ontario	15	17½	32½	17½	38	17½	47½	17½	30	17½	21
Montreal, Province of Quebec	23	28	58	28	68	28	83	28	46	28	35½
New York, N. Y.	25	30	60	30	70	30	85	30	50	30	37½
New Haven, Conn.	30	35	65	35	75	35	95	35	60	35	42½
Ogdensburg, N. Y.	25	30	60	30	70	30	85	30	50	30	37½
Oswego, N. Y.	24	25	55	25	65	25	75	25	48	27	32½
Philadelphia, Pa.	23	28	58	28	68	28	83	28	46	28	35½
Portland, Me.	30	35	65	35	75	35	95	35	60	35	42½
Port Stanley, Ontario	15	17½	32½	17½	38	17½	47½	17½	30	17½	21
Providence, R. I.	34	39	69	39	79	39	99	39	68	39	46½
Rouse's Point, N. Y.	30	35	65	35	75	35	95	35	60	35	42½
Schenectady, N. Y.	24	25	55	25	65	25	75	25	48	27	32½
St. John's, Province of Quebec	30	35	65	35	75	35	95	35	60	35	42½
St. John's, New Brunswick	40	45	80	45	90	45	1 10	45	80	45	.....
St. Catharines, Ontario	15	17½	32½	17½	38	17½	47½	17½	30	17½	21
St. Thomas, Ontario	15	17½	32½	17½	38	17½	47½	17½	30	17½	21
Suspension Bridge, N. Y.	15	17½	32½	17½	38	17½	47½	17½	30	17½	21
Toronto, Ontario	15	17½	32½	17½	38	17½	47½	17½	30	17½	21
Troy, N. Y.	24	25	55	25	65	25	75	25	48	27	32½
Worcester, Mass.	30	35	65	35	75	35	95	35	60	35	42½
Woodstock, Ontario	15	17½	32½	17½	38	17½	47½	17½	30	17½	21

* Less than 15,000 pounds not taken.
C. L.—Car-load.
L. C. L.—Less than car-load.

LOUISVILLE AND NASHVILLE RAILROAD.

Articles.	Louisville to—			Louisville from—		
	Atlanta.	Savannah.	New Orleans.	Atlanta.	Savannah.	New Orleans.
Agricultural implements:						
C. L ..... per 100 lbs..	$0 59	$0 58	$0 35	$0 59	$0 58	$0 37
O. R., C. L ..... do ..	59	58	35	59	58	37
Bacon, in boxes or casks ..... do	38	32	25	38	32	37
Beans, in bags or barrels ..... do	59	58	35	59	58	37
Beef, packed ..... do	38	32	25	38	32	37
Butter, in tubs or firkins ..... do	88	75	67	88	75	55
Cheese, in boxes or casks ..... do	73	70	45	73	70	55
Eggs, packed, O. R ..... do	88	75	67	88	75	70
Fertilizers, N. O. S ..... do	*3 80	26½	26	*3 80	26½	37
Flour, C. L ..... do	32	29	36	32	29	36
Grain, C. L ..... do	31	25	28	31	25	37
Guano, packed ..... do	*3 80	26½	26	*3 80	26½	37
Hams, in boxes or barrels ..... do	38	32	25	38	32	37
Hay, pressed in bales:						
O. R ..... do	31	25	28	31	25	28
O. R., C. L ..... do	31	25	28	31	25	28
Hides:						
Dry, pressed in bales ..... do	73	70	45	73	70	45
Dry, loose ..... do	1 18	95	1 07	1 18	95	70
Green, C. L ..... do	73	70	45	73	70	37
Hops ..... do	1 02	80	77	1 02	80	55
Hops, C. L. of 10,000 pounds or over ..... do	1 02	80	77	1 02	80	55
Lard, in barrels or kegs ..... do	38	32	25	38	32	37
Cattle, C. L ..... car..	95 00	153 00	100 00	95 00	153 00	80 00
Hogs, C. L ..... do	95 00	153 00	100 00	95 00	153 00	80 00
Horses and mules, C. L ..... do	95 00	153 00	100 00	95 00	153 00	80 00
Sheep, C. L ..... do	95 00	153 00	100 00	95 00	153 00	80 00
Meal, in bags or barrels ..... per 100 lbs..	31	25	28	31	25	45
Pork, salted, in barrels ..... per bbl..	1 14	96	1 12	1 14	96	†37
Potatoes, in sacks or barrels ..... per 100 lbs..	46	46	30	46	46	‡70
Salt, in sacks, barrels, or boxes ..... do	13	20	45	13	20	45
Wool:						
In bags ..... do	1 18	95	1 07	1 18	95	70
Foreign, pressed in bales ..... do	88	75	67	88	75	67

* Per ton.
† Per 100 pounds.
‡ Per barrel.
C. L., car-load.
O. R., owner's risk.
N. O. S., not otherwise specified.

DETROIT AND CLEVELAND STEAM NAVIGATION COMPANY.

Articles.	Between Detroit and—	
	Cleveland.	Mackinaw.
Agricultural implements ..... per 100 lbs	$0 15	$0 20
Apples ..... do	10	15
Bacon, in boxes ..... do	8	12½
Beans ..... do	8	12½
Beef, salted ..... do	8	12½
Butter, in tubs and firkins ..... do	18	20
Cheese, in boxes ..... do	15	20
Eggs, in barrels or cases ..... do	20	20
Fertilizers, in bags ..... do	6	10
Grain ..... do	8	12½
Guano, in bags ..... do	8	12½
Hams, in casks ..... do	8	12½
Hides :		
Dry, loose ..... do	20	25
Dry, in bales ..... do	20	25
Green ..... do	10	12½
Hogs, dressed ..... do	15	20
Hops ..... do	20	25
Lard, in tierces ..... do	8	12½
Meal, in sacks or barrels ..... do	8	12½
Pork, salted, in barrels ..... do	8	12½
Potatoes :		
In sacks or barrels ..... do	8	12½
Sweet, in barrels ..... do	10	15
Tobacco, unmanufactured, in hogsheads ..... do	10	15
Wool :		
In sacks ..... do	20	25
In sacks, pressed ..... do	20	25
Rice, in tierces ..... do	8	12½
Salt, in sacks ..... do	10	15

MEMPHIS AND OHIO RIVER PACKET COMPANY.

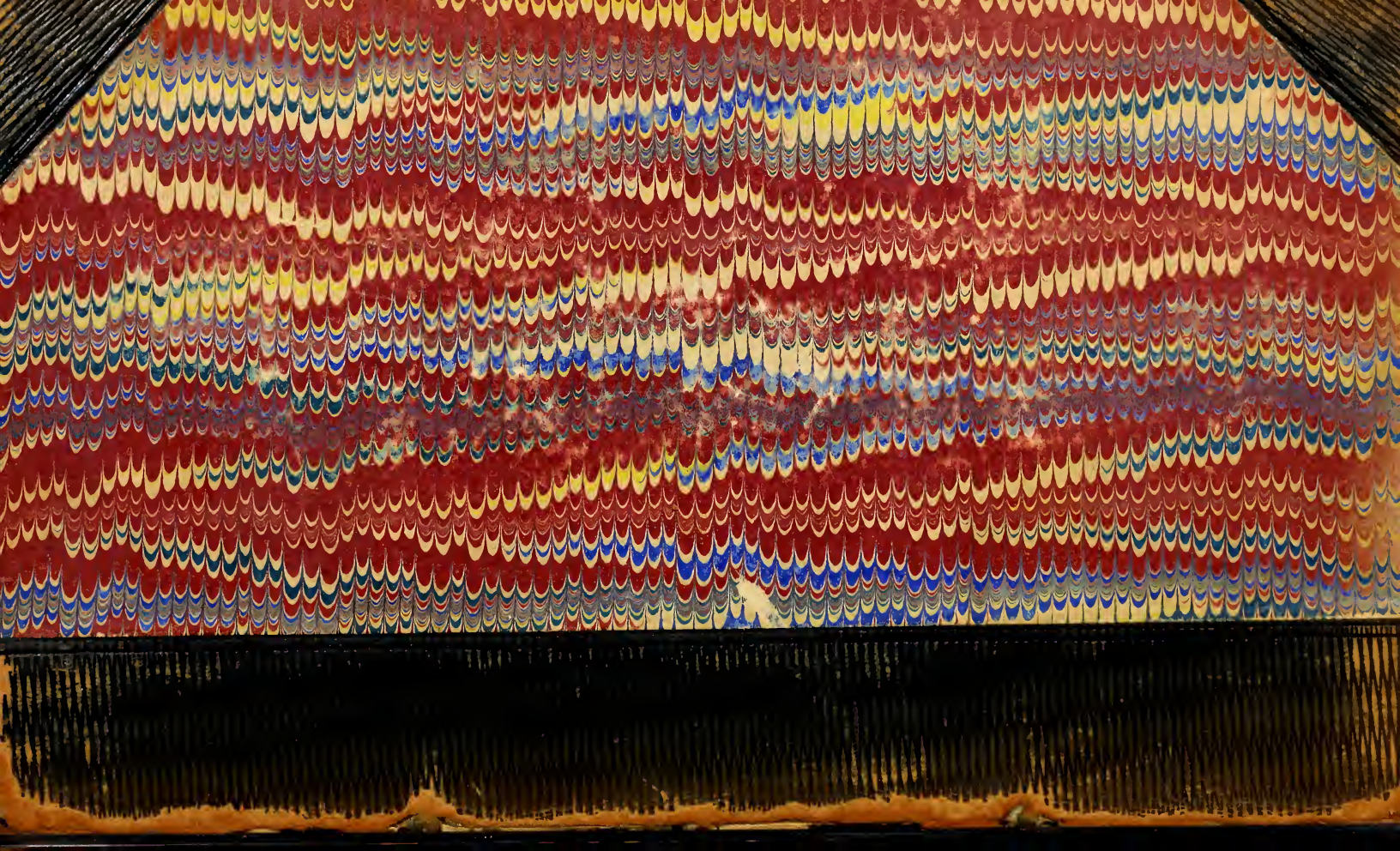
Articles.	Memphis to—			Memphis from—		
	Cairo.	Louisville.	Cincinnati.	Cairo.	Louisville.	Cincinnati.
Agricultural implements ..... per 100 lbs	$0 25	$0 25	$0 25	$0 25	$0 30	$0 35
Apples ..... per bbl	20	20	20	20	25	25
Bacon, in boxes ..... per 100 lbs	15	15	15	12½	15	15
Beans ..... do	15	15	15	12½	15	15
Beef, salted in barrels ..... per bbl	30	30	30	25	30	40
Butter, in tubs or firkins ..... per 100 lbs	15	15	15	12½	15	30
Cheese, in boxes or casks ..... do	15	15	15	12½	15	30
Cotton, in bales ..... per bale	50	50	50	75	75	75
Eggs, in barrels ..... per bbl	25	25	40	25	25	40
Fertilizers, in bags ..... per 100 lbs	12½	12½	12½	12½	15	20
Corn ..... do	10	15	17½	10	15	17½
Oats ..... do	12½	17½	20	12½	17½	20
Rye ..... do	12½	17½	20	12½	17½	20
Barley ..... do	12½	17½	20	12½	17½	20
Wheat ..... do	10	12½	15	10	12½	15
Guano, in bags ..... do	12½	12½	12½	12½	12½	12½
Hams, in casks ..... do	10	12½	15	10	12½	15
Hides:						
Dry, loose ..... do	50	50	75	50	50	75
Dry, in bales ..... do	25	25	40	25	25	40
Green ..... do	12½	12½	15	12½	12½	15
Hogs, dressed ..... per carcass	50	50	50	50	60	60
Lard, in tierces ..... per 100 lbs	15	15	15	12½	15	15
Lumber ..... per 1,000 ft	7 00	7 00	7 00	10 00	10 00	10 00
Meal, in barrels ..... per bbl	25	25	30	25	25	30
Pork, salted in barrels ..... do	30	30	30	25	30	40
Potatoes:						
Common, in barrels ..... do	20	20	20	15	25	25
Sweet, in barrels ..... do	20	20	20	15	25	25
Tobacco, unmanufactured, in hogsheads ..... per 100 lbs	20	20	20	25	30	35
Wool ..... do	25	25	25	25	40	50

PORTLAND STEAM PACKET COMPANY.

Articles.	Boston to Portland.	Boston from Portland.
Agricultural implements ..... per 100 lbs..	$0 25	$0 25
Apples ..... per bbl..	15	15
Bacon, in boxes ..... per 100 lbs..	10	10
Beans ..... do....	10	10
Beef, salted ..... per bbl..	20	25
Butter, in tubs or firkins ..... per 100 lbs..	15	15
Cheese, in boxes ..... do....	15	15
Eggs:		
In barrels ..... per bbl..	25	25
In cases ..... per case..	15	15
Fertilizers, in bags ..... per 100 lbs..	10	10
Corn ..... do....	10	10
Oats ..... do....	10	10
Rye ..... do....	10	10
Barley ..... do....	10	10
Wheat ..... do....	10	10
Guano, in bags ..... do....	10	10
Hams, in casks ..... do....	10	10
Hides:		
Dry, loose ..... do....	20	20
Dry, in bales ..... do....	15	15
Green ..... do....	10	10
Hogs, dressed ..... do....	10	10
Hops ..... do....	20	20
Lard, in tierces ..... per tierce..	30	30
Lumber:		
Hard ..... per M..	3 00	3 00
Soft ..... do....	2 00	2 00
Meal:		
In sacks ..... per 100 lbs..	10	10
In barrels ..... per bbl..	15	15
Pork, salted ..... do....	20	20
Potatoes:		
In sacks ..... per 100 lbs..	10	10
In barrels ..... per bbl..	15	15
Sweet, in barrels ..... do....	15	15
Rice, in tierces ..... per 100 lbs..	10	10
Salt, in sacks ..... do....	10	10
Tobacco, unmanufactured, in hogsheads ..... do ..	10	10
Wool:		
In sacks ..... do....	20	20
In sacks, pressed ..... do....	10	10

FREIGHT RATES—STEAMSHIP COMPANIES.

OCEAN STEAMSHIP COMPANIES.

Articles.	Monarch Line, New York to London.	Inman Steamship Company, New York to Liverpool.	Anchor Line, New York to Glasgow.	North German Lloyd Steamship Company, New York to Bremen.	General Transatlantic Company, New York to Bremen.
Wheat ..... per bushel..	$0 10½	$0 08	$0 09	†$0 20	$0 14
Corn ..... per bushel.	(60 lbs.) 10½	08	(60 lbs.) 09	†20	15
Flour ..... per bbl..	60	42	48	†72	1 00
Flour (sacks) ..... per 2,240 lbs..	4 20	3 00 to 3 60	4 20	†24	†25 to 30
Bacon ..... do....	6 00	4 20 to 4 80	6 00	†24	†25 to 30
Lard ..... do....	6 00	4 20 to 4 80	5 40	†24	†25 to 30
Cheese ..... do....	7 20	7 20 to 8 40	10 20	†30	†30
Tallow ..... do....	6 00	4 20 to 4 80	4 80	†24	†25
Beef ..... per tierce..	1 32	72 to 84	1 20	1 50	1 25
Pork ..... per bbl..	96	48 to 60	90	1 10	1 00
Oil-cake ..... per 2,240 lbs..	3 90 to 4 20	3 00	3 60	†24	†40
Cotton ..... per lb..	----------	*¾	----------	†45	*
Hops ..... do....	¾ to 01	*	00¾	†1 00	*
Tobacco ..... per hhd..	4 80 to 6 00	4 80	4 80	6 00	8 00
Rosin ..... per 280 lbs..	60	60	54	60	----------
Lard, in small p'kgs ..... per 2,240 lbs..	7 20	7 20	7 20	†30	†30
Tobacco, in cases ..... per 40 cu. ft..	4 80	4 80	4 80	‡2 00	8 00
Measurement per ton ..... 40 cubic feet..	4 20 to 4 80	4 80 to 6 00	4 20	6 00	8 00
Primage ..... per cent..	5	5	5	None	5

*Compressed. †Per 100 lbs. ‡Per case.